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THE

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A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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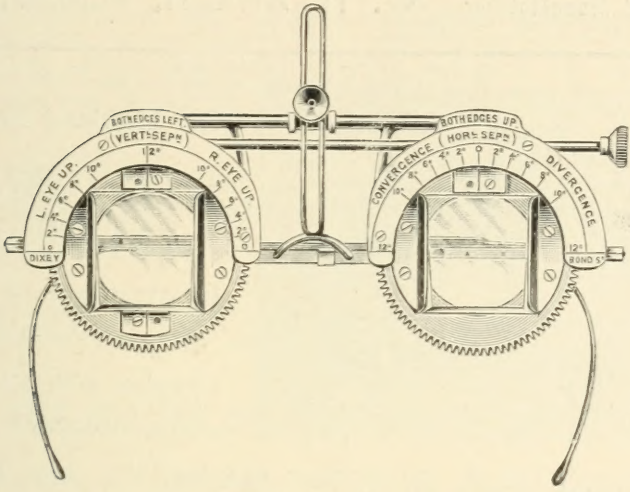

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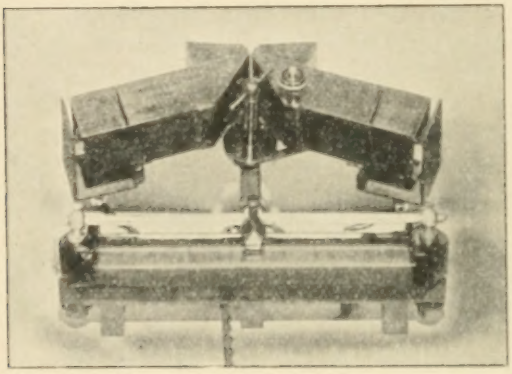

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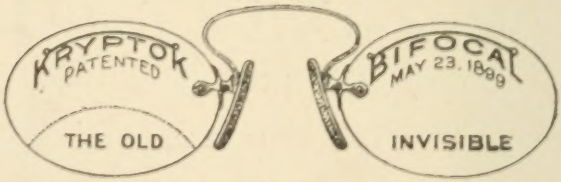

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A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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ORIGINAL COMMUNICATIONS.

FOUR CASES OF INJURY TO THE EYES OF THE CHILD DURING LABOUR.

BY

ERNEST THOMSON, M.D. AND LESLIE BUCHANAN, M.D.

SURGEON GLASGOW EYE INFIRMARY; OPHTHALMIC SURGEON GLASGOW MATERNITY HOSPITAL.

SURGEON GLASGOW EYE INFIRMARY; FORMERLY PATHOLOGIST GLASGOW EYE INFIRMARY.

At the end of our paper on "Obstetric Injuries of the Cornea," which appeared in THE OPHTHALMOSCOPE for June, 1905, we remarked "that in all probability we are very far from the end of our observations of such lesions," and so it has turned out, for in addition to the four infantile cases of birth injury now about to be related, we have come across a considerable number of patients who, at ages varying from one year to 19 years, have been brought for advice on account of defective sight, and in whom it is perfectly clear that the poor vision is due to birth injury. No apology is yet necessary for the publication of details of cases, because in spite of the exhaustive paper by Bruno Wolff (1), writing from the obstetric standpoint, the total number of cases occurring over the country in general cannot be large. We shall (in obedience to editorial commands) relate the cases with the utmost possible brevity. They are as follows:

Case Q. Cammidge, 21 years, primipara. Admitted and delivered, Glasgow Maternity Hospital, January 14th, 1905. Contracted pelvis, C.V. $3\frac{7}{8}$ inches. Presentation, L.O.A. First and second stages, 22 hours. Male, 6lb. child. Difficult pull in Walcher position. Child's head at 1 week:—B.F. = 3 inches; B.P. = $3\frac{1}{2}$ inches; B.T. = $8\frac{1}{2}$ inches; S.O.B. = $3\frac{1}{2}$ inches; O.F. = $4\frac{1}{2}$ inches.

Immediately after birth the house surgeon noticed two vertically placed narrow bands close together across the middle of the left cornea. Within 24 hours general corneal opacity appeared. Seen by one of us on the second day. The following is the report:—"Left eye proptosed, cornea distinctly oval horizontally (approximately, vertical 10 mm., horizontal 12 mm.). A.C. deep. Whole corneal surface rough to an unusual degree; generalized opacity, least marked over nasal third. Vertical striping indistinctly visible. Pupil visible, equal in size to right. Very slight ecchymosis conjunctiva. Eye movements free. No blood in A.C. The position of the forceps blades well marked, *viz.*:—(1) over right mastoid; (2) over left parietal, frontal and

temporal bones in such a position that the tip of the blade has pressed upon the left upper eyelid at the junction of its outer and middle third, abrading it just at the ciliary border. From the position assumed by the blade when experimentally put in position, it has probably pressed down upon the globe. *Left* facial paralysis, possibly caused according to Dr. Jardine by the promontory."

Five days later a corneal ulcer had appeared in the upper and densest part of the opacity and exactly opposite the lid abrasion. This ulcer took a long time to heal, and left a considerable degree of scarring which obscured the view of the corneal linear opacity. The case has since been lost sight of.

In this case, at any rate, it is hardly possible to doubt that a vertical rupture of Descemet's membrane was caused by vertical compression of the globe. This corresponds with Peters' statement, namely, that such ruptures occur in the meridian in which the eye is compressed. (2)

Case R. McHugh. Multipara (7). The following notes of obstetric history are interesting, chiefly because out of seven children it is known that at least four were injured at birth, one being still-born, with the head badly crushed, another dying within 24 hours, and two having cuts on the temple due to pressure of forceps blades, but no other injury. The mother is a largely-built woman. Pelvic conjugate, 4 inches. All labours very difficult (forceps).

Present Case.—Labour very prolonged. Milne-Murray axis traction forceps applied at the brim. At birth there was said, by the accoucheur, to be swelling of the right temple and a deep cut half-an-inch long above the outer canthus. It was considered possible that there might be a fracture of the cranium. Small cut on left temple above the ear. The right cornea was said to show a clearly defined stripe placed vertically and just at the outer margin of the pupil. Cornea otherwise clear. The child was seen 6 hours after birth by one of us, when the other signs of injury mentioned being visible, the cornea was found to be steamy, and no vertical stripe could be seen. Sixteen hours after birth, child was seen again by one of us. Cut still open, lids of right swollen and ecchymotic, general opacity markedly denser, so that the pupil could be seen only with difficulty. No linear opacity or stripe visible. Left eye normal.

The child died 24 hours after birth. No autopsy.

In this case it is probable that the band or stripe in the right cornea which had been seen by the accoucheur was obscured by the corneal haze by the time the case came under our observation.

Case S. Gilmour, 30 years, fifth pregnancy, delivered in Glasgow Maternity Hospital, September 28th, 1906. Con-

tracted pelvis. C.V. 3¼ inches. Presentation, vertex. First and second stages, 13 hours. Child, 7½lbs. Sex (?). Pressure mark of end of forceps blade over right eyebrow and encroaching on the lid, but no abrasion of the skin; other blade has marked the left mastoid. The house surgeon having reported that there was a decided right corneal opacity, the child was seen by one of us the following day: "Faint corneal haze with no striping; suspicion of blood on the surface of the iris. The house surgeon states that both the opacity and the blood were more marked on the day of birth."

The opacity disappeared entirely in a day or two.

We report this case because in it we recognise the temporary corneal opacity due to œdema caused by pressure, which is so transient that it is doubtless often missed by the accoucheur. (3)

Case T. Kerr, aged (?) Fifth pregnancy, delivered at Glasgow Maternity Hospital, November 26th, 1906. Contracted pelvis; measurement not known. (Previous labours all terminated instrumentally, and, except in one, fatally for the child. This only other child, which survived birth, is now dead). Presentation transverse, right arm down. Arm pushed up, and after great difficulty, the head was gripped by the forceps and delivery completed. Second stage, 9 hours. Child's head of average size. Sex and weight (?)

At birth the right eye was lying on the cheek, evidently held by the optic nerve. The accoucheur replaced the eye, hoping that the connections were not irretrievably damaged.

Seen by one of us on the following day, and following note made: "Marks of forceps (1) over right forehead with the apex at the orbital margin, (2) behind the left ear with the apex on the neck. Right eye dead in appearance, proptosed, and slightly divergent. Cornea hazy. Conjunctiva over nasal portion of globe is torn, and the torn stump of the internal rectus is visible. Almost no ecchymosis. As soon as the eyelids were held apart, the eyeball became dislocated and rotated to the temporal side; its attachments were then severed. These consisted certainly of the optic nerve and external rectus, with possibly the superior oblique. There was no bleeding, the vessels having been torn and sealed by the original force which expressed the eyeball."

In this case it is undoubted that the force necessary to complete delivery was very great; and we see the extreme result of great pressure on the head. A smaller amount of pressure results in proptosis of a temporary nature, as is shown in several published cases. We hold, as we have always held, that these cases must be described as "extrusion" or "expulsion" of the eyeball by force applied to the orbit, and not as "avulsion." Avulsion by the forceps is impossible with intact eyelids.

The above four cases are here published as part of a series, and we do not desire at the present time to make any further comment upon them (4).

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(2) A. Peters. — *Archiv für Ophthalmologie*. Dezember, 1906; also abridged translation in THE OPHTHALMOSCOPE. March, 1907.

(3) Compare our papers in THE OPHTHALMOSCOPE for June, 1905; and *Transactions Ophthalmological Society*, 1905.

(4) Cf. *loc. cit.*, and also Thomson "Traumatic Keratitis in the New-born," *Transactions Ophthalmological Society*, 1902.

THE SPIROCHÆTA PALLIDA, WITH ESPECIAL REFERENCE TO AFFECTIONS OF THE EYE.

BY

W. ANSTRUTHER MILLIGAN, M.D.

PATHOLOGIST TO THE SOUTHEASTERN HOSPITAL FOR CHILDREN, LONDON.

Amongst the many attempts that have been made to discover the specific organism of syphilis, none has attracted so much attention as the investigation begun by Siegel (1) who discovered and described a flagellate protozoon—the cytorrhyctes luis—which he believed to be the specific organism of syphilis. In consequence of this discovery, the Berlin Imperial Board of Health requested Schaudinn and Hoffmann to investigate the whole question of the presence of micro-organisms in syphilitic lesions. During the course of the year 1905, these observers (2) published various papers indicating the progress made. By the end of the year they expressed the belief that they had found the organism which they believed was the specific organism of syphilis. Step by step this organism, the spirochæta pallida, had been found in various primary and secondary syphilitic lesions, but never in control experiments performed on non-syphilitic persons. Hoffmann (3) summed up the results obtained by Schaudinn, himself, and others, as follows:—

The organism has been found:—

(1) In the syphilis of adults:—(*a*) in genital and extra-genital primary sores; (*b*) in genital and peri-genital papules, both secreting and intact; (*c*) in moist papules between the toes; (*d*) in papules and pustules on the skin, far removed from the genital organs; (*e*) in the papules of mucous membranes; (*f*) in

lymphatic glands; (*g*) in splenic blood; (*h*) in blood taken from the ball of the finger (?)

(2) In congenital syphilis :—(*a*) in the pemphigus bullæ and skin papules; (*b*) in the liver; (*c*) in the spleen; (*d*) in the lymphatic glands; (*e*) in the lungs; (*f*) in the blood.

(3) In the primary lesions of monkeys that have been experimentally inoculated (Metchnikoff and Roux).

Schaudinn (4) wrote that he was convinced that the organism occurs regularly in all forms of syphilis up to the tertiary stage, but in this latter he had uniformly failed to find it up to the present. "I expect, however, that in the late form of syphilis, the spirochæta will be found in the less characteristic granule-like resting stage, which I have described briefly in my first publication with Hoffmann."

The organism, which is not a typical spirochæta, Schaudinn agreed with Veullemin, should be called, "Spironema pallidum." Still later, Hoffmann describes how the organism has been demonstrated in the tissues, by means of the method by impregnation with silver.

Shennan, of Edinburgh (5) published papers on the Spirochæta pallida. In these he gives an account of the literature on the subject, and says that "it is astonishing with what unanimity this discovery has been accepted on the continent." He concludes by saying that "while there is a very considerable probability that spirochæta pallida bears an ætiological relationship to syphilis, we require to know more about the spirochætes in general, and to have better methods of distinguishing the many forms intermediate between the typical spirochæta pallida and the typical spirochæta refringens, before we can unreservedly accept this as a completely proved fact in pathology."

Sydney Stephenson (6) contributed a brief note on the occurrence of the spirochæta pallida in syphilitic lesions of the eye, in which he mentioned two cases of keratomalacia under his care, where an organism identical morphologically with the spirochæta pallida was found. Up to the present, he wrote, most of the work in this direction has been experimental, and he mentions such experiments carried out by Schulze, Bertarelli, Greeff and Clausen. It thus appears that the demonstration of the spirochæta pallida in Stephenson's two cases is the first recorded example of the presence of the organism in actual disease as opposed to experimental lesions of the eye.

Babs (7) found spirochætæ in the eyes of three syphilitic still-born fœtuses.

With regard to the occurrence of the spirochæta in tertiary lesions, no definite information is as yet forthcoming. Amongst

other papers published on this point may be mentioned those by Tomasczewski (8), Dontrepont and Grouven (9), and Neisser (10).

Then, again, another important point is as to whether mercurial treatment causes the disappearance of the spirochætes, and on this point authorities are not yet agreed. Lipschutz (11) says that a short energetic treatment has no influence on the demonstration of the spirochæta pallida. Bodin (12) states that they disappear during mercurial treatment.

The Organism.—The spirochæta pallida is an extremely delicate, actively motile, spiral-shaped organism. Its length varies from 4 to 20 μ. (roughly equal to the diameter of a red blood corpuscle) and its breadth is about 0·25 μ.

It is made up of sharp narrow spirals about 8 to 16 in number, and these spirals have the peculiarity of being visible in the living organism, both while in movement and while at rest.

The presence or not of flagella is still undecided. Schaudinn found a long delicate flagellum at each end, and noted the absence of the undulating membrane found in other forms of spirochætes. With this opinion most observers are in agreement. The organism most likely to be confused with the spirochætes pallida is the organism known as the spirochæta refringens. This latter organism, amongst other places, occurs on moist and ulcerating syphilitic surfaces, and may then be accompanied by the spirochæta pallida. It differs from the latter in being thicker, and more distinctly refractile. Its curves are flatter and longer, and it possesses a vibratile membrane and no flagella.

Methods.—The demonstration of the spirochæta pallida can be carried out as follows:—

(1) From an exposed surface, by cleaning the part to be examined, and then either rubbing a stiff platinum loop over the surface until a copious supply of serum appears, or else using a sharp spoon and scraping the surface. Too much blood must not be in the film.

(2) From an enlarged gland, withdraw by means of a hypodermic needle, the juice from the interior.

(3) From the blood — by Noeggerath and Staehelin's method (13)—viz., take 1 c.c. of blood from a vein, mix with 10 c.c. of $\frac{1}{3}$ per cent. acetic acid in water—centrifugalise, and examine the deposit.

(4) From the tissues—by means of Levaditi's method (14).

(5) There seems no reason why the organism should not be demonstrated in syphilitic eyes by the withdrawal and subsequent centrifugalisation and examination of the aqueous humour.

This, so far as I know, has not yet been done,* although a suggestion as to its possibility was made eleven years ago by Stephenson.(15)

The organism is extremely difficult to detect in the living state. When seen, its motility is found to be of a three-fold character, *viz.*, corkscrew, swaying, and bending.

Film preparations, after having been fixed, are best stained with Giemsa's stain, made up as follows (Emery):—Giemsa, 10 drops; distilled water, 50 drops; pot. carbonate, 1-2 drops; (1-1,000 in distilled water). Allow the stain to act, without heat for ½ to 1 hour; wash in distilled water, dry, and mount.

Schaudinn recommends osmic acid vapour for fixing the films, as he finds that the spirals and pointed ends are better preserved by this method.

With the Giemsa method, which has the advantage of being a differential stain, the organism takes on a rose-pink colour, whereas the spirochæta refringens takes on a much darker purplish or violet colour.

The organism can also be stained by means of a 1-1,000 solution of Nile blue in distilled water (Herscheimer). In this way, after staining for 24 hours, the spirochæta pallida is stained a fine blue.

For demonstrating the flagella, Schaudinn recommends Löffler's dye for the flagella of bacteria.

The organism is extremely difficult to detect, and for this it is necessary to use a 1/12 oil immersion lens, high eye-piece, and to work with a very good light.

Conclusion.—In conclusion, therefore, allowing for the fact

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(3) Hoffmann.—(*a*) *Berl. Klin. Woch.*, No. 32, 1905. (*b*) *Berl. Klin. Woch.*, No. 46, 1905.

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(11) Lipschutz.—*Deut. med. Woch.*, 1905. No. 46.

(12) Bodin.—*Presse Méd.*, Paris, 1905, 102, p. 823.

(13) Neggerath and Stachelin.—*Münch. med. Woch.*, 1905, pp. 1420 and 1518.

(14) Levaditi.—*Comptes rendus de la Société de Biologie*, LVIII, 845.

(15) Stephenson.—*Lancet*, February 29, 1896.

* Zur Nedden (*Bericht über die dreiunddreissigste Versammlung der Ophthalmologischen Gesellschaft*, Heidelberg, 1906, p. 215, published in 1807), found an organism resembling the spirochæta pallida in the aqueous humour from a case of acute syphilitic iritis.—EDITORS.

that it seems perfectly possible that the original cytorrhyctes luis of Siegel and the spirochæta pallida of Schaudinn, are simply different phases in the life-history of the same organism, it may be taken as practically certain that this spirochæta pallida is the specific cause of syphilis.

True it is, that all Koch's postulates have not been satisfied, but then organisms with just the same amount of positive evidence as exists in the present case have been accepted as the specific cause of disease, *e.g.*, bacillus lepræ.

SOME NOTES OF 125 CASES OF POSTERIOR DISLOCATION OF THE LENS, AS A RESULT OF OPERATIONS BY NATIVE "COUCHERS."

BY

R. H. ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng.

[illegible]

Hirschberg, in the *Centralblatt für praktische Augenheilkunde* (Feb. 1, 1894), gave his views on "The cataract pricking of the Hindus." He was handicapped by his ignorance of the natives of India, and of their ways and customs. Maynard, in the *Ophthalmic Review* (April, 1903), published 63 cases which he had collected in Mofussil practice in India. He found that 61·9 of these had retained good vision for an average period of 4.88 years. In his summary he supports Power's conclusion, namely, that under certain circumstances the operation of depression "would be at least allowable, if not advisable." Power's views were stated in the *British Medical Journal*, 1901, p. 1,260, and in the *Ophthalmic Review*, Vol. XXI, p. 131. Castillo y Quartillera, in the *Arch. de Oftal. Hispano-Americanos* (Oct., 1904), considers that couching is justifiable under certain circumstances, and discusses the best method of operation. Major Henry Smith, in the *Trans. Ophthalmological Society* (1904, p. 264), gives his opinions on the subject. He thinks that "lens couching is an operation which should not be practised outside the ranks of charlatans." Living and working, as he does, in a great "couching" centre, his opinions must carry weight; but he, unfortunately, does not give the statistics on which they are based. Basse, of Genoa, advocates couching in *La Clinica Oculistica* (January, 1904), and describes his advances on Albertotti's method. His description of the post-operative complications (*viz.*, secondary glaucoma, and rising of the lens across the pupil) would make most surgeons hesitate to copy him.

In the *Indian Medical Gazette* (May, 1905) Maynard replied to Smith's criticisms.

Two questions arise in considering this subject, *viz.*: (1) What results attend the couching of lenses in a native practitioner's hands? and (2) Is the operation of couching ever justifiable in the practice of a British surgeon?

As to the first question, the following statistics will speak for themselves. During the last two years I have been on the watch for every case which has attended my out-patient room, in which there has been evidence that the patient had attended a native practitioner. I think very few have been missed. A large number of the patients came for the other eye. I admit that we see the worst cases in an English hospital, but there are many reasons, a recapitulation of which would only be tedious to a British reader, for thinking that these results are probably nearer the truth than one would at first sight expect. Moreover, the Vaithyan (native doctor) does not by his methods encourage us to believe that he would obtain many successes, for he is as ignorant as he is dirty.

My reply to the second question is emphatically in the negative for any skilful surgeon. I have operated on about 4,000 cataracts, and may therefore claim to have met with most of the common complications that embarrass the ophthalmic surgeon. I can only say that, weighing, on the one hand, the dangers of couching, and, on the other, the so-called indications for its performance, I can think of no conditions which would lead me to undertake an operation which I regard both as unscientific and as opposed to the dictates of sound surgery. I am aware that this can claim to be nothing more than an expression of opinion, but this opinion has not been lightly formed. For many years past, I have watched the couchers' results, keeping constantly before me the views of those who differ so widely from me on this question, and my conclusions have been arrived at, after very carefully weighing all sides of a question which I have felt to be of no small importance to those who practise eye-surgery in the East.

STATISTICS OF 125 MAHOMEDAN OPERATIONS.

Mahomedan Males	7
Mahomedan Females	3
Total	10
Hindu Males	67
Hindu Females	48
Total	115
Grand Total...	125

It is noteworthy that none of the patients were Europeans or Eurasians. The scanty number of Mahomedans who submitted themselves to operation is probably to be accounted for by relative population numbers.

AGES WHEN THEY CAME UNDER OBSERVATION

25 years	2
26-30 years	3
31-35 ,,	3
36-40 ,,	12
41-50 ,,	47
51-60 ,,	36
61-70 ,,	18
71 ,, and above	4
Total..	125

PERIOD WHICH ELAPSED BETWEEN THE MAHOMEDAN OPERATION AND THE PATIENT COMING UNDER OBSERVATION

Less than 1 month	5 cases.
From 1 to 6 months	20 ,,
From 7 ,, 12 ,,	9 ,,
1 year after	11 ,,
2 years after	13 ,,
3 ,, ,,	10 ,,
4 ,, ,,	11 ,,
5-10 ,, ,,	27 ,,
10 years and over	5 ,,
Unknown ...	2 ,,
Total	125 cases.

STATE OF VISION WHEN THE PATIENT CAME UNDER OBSERVATION.

V. ½ - 1/10	17 cases.
V. 1/10 - 1/50	11 cases.
V. marked as good, but records unfortunately mislaid in 2 cases.	
Total ...	29 cases or 23·2 %
V. counted fingers at 2 feet or less	10 cases or 8 %
V. hand movements only...	18 cases or 14·4 %
V. nil	68 cases or 54·4 %
Total ...	125 cases or 100 %

We may, therefore, classify the results as follows :—

Successes	29 or 23·2 %
Partial successes	10 or 8·0 %
Failures	86 or 68·8 %
Total ...	125 or 100 %

It is of interest to examine the failures and partial successes separately. The causes of failure arrange themselves as follows :—

(1) Iritis and irido-cyclitis in	52 cases.
(2) Glaucoma in	17 cases.
(3) Imperfect dislocation of the lens in	13 cases.
(4) Detachment of the retina in	2 cases.
(5) Vitreous opacities (probably secondary to some affection of the uveal tract) in...	1 case.
(6) Optic atrophy in	1 case.
Total ...	86 cases.

The commonest cause of failure is seen to be iritis and irido-cyclitis. Moreover, in seven of the cases classed as successes or partial successes, there was evidence that iritis had followed the operation. Even this does not complete the tale, for I feel sure that some of the shrunken eye-balls met with were due to Mahomedan operators' interference, although the patients would not admit it. A knowledge of our attitude towards the "coucher" makes the native patient very reluctant to confess to having been so foolish as to place himself in the hands of one of these men. Under the circumstances, one can only omit such eyes from one's statistics, to the obvious and undeserved credit of the charlatan.

Seventeen cases of failure are attributed to glaucoma Beside these, there was a pathological increase of tension in nine other cases out of the whole 125. Of these two fall under the partial successes, and seven under the successes. Confining ourselves for the present to the failures, we find that in five cases out of the 17 there was a clear history of glaucomatous symptoms before the couching took place. In these five at least it would appear that the operator mistook glaucoma for cataract. There are two other cases in which the patient came to hospital with glaucoma in the unoperated eye, giving rise to a suspicion that in them, too, the same error in diagnosis had been made. One cannot, however, speak with absolute certainty. In any case we are left with 10 cases (8·0 % of the total) in which the operation appears to have given rise to a pathological increase of tension.

Imperfect dislocation accounts for 13 failures—10·4% of the whole number. In these cases the operator had failed to get the lens out of the way of the line of sight. In seven cases the lens was fixed, whilst in the remaining six it lay flapping across the pupil. It is of interest to remember that Basso found the rising of the lens back across the field of sight, one of the causes of failure in his series of cases.

In the two cases in which failure is attributed to "Detach-

ment of the Retina," it is hard to say with certainty whether this accident was the consequence of the operation, or whether it existed beforehand and misled the operator into a false diagnosis of "cataract." In both cases it seems probable that a mistake was made, for the patients were totally blind before operation, and had not even perception of light at any time afterwards.

In one case vitreous opacities hid the fundus. Their cause could only be guessed.

In one case there was well-marked optic atrophy, and from the history it seems more than probable that this condition was present before the operation and misled the "hakim." There was a corresponding condition of atrophy in the opposite, untouched, eye.

I have looked in vain for any signs of the "slow and steadily progressive degeneration of the vitreous and of the retina," described by Smith as "the invariable sequence" of couching. I do not think that such a condition exists in the eyes operated on in the South of India. I am still carefully on the look out for it.

Of the 86 cases returned as failures, 30 stated that they had experienced some improvement in vision immediately after operation. Of these, one retained useful visual power for two years; his sight then failed, and when he came under observation he could only count fingers at 5 in.; the T. of the eye was *plus* 2. A second retained vision for one year; when he was observed V. was hand-movements only, and the eye showed signs of old irido-cyclitis. A third had useful vision for nine years after the couching; he likewise came under observation with V. only hand-movements, and with signs of old irido-cyclitis. The remainder appear to have counted their period of improved vision in days, and no more.

Turning next to the 10 cases which have been classed as "partial successes," one finds that in five of them (50 % of the number) there was evidence that iritis or irido-cyclitis had complicated the after-course of the convalescence. In two of these the tension of the eye was low, and in one it was increased. In two other cases the tension was pathologically high; in one it was pathologically low, and in two I am not prepared to assign a cause for the failure.

An obvious indication is to obtain any eyes, removed for one cause or another, after Mahomedan operation, and to study such by means of sections. It is very difficult to obtain such eyes. If any Indian Mofussil surgeon has the opportunity of securing such specimens, and will place them in 10 % formalin solution and send them to me, I shall be greatly obliged to him, and will fully acknowledge my indebtedness.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

EVISCERATION OF AN EYEBALL BY A SINGLE MASS OF HEATED METAL.

BY

CHARLES A. OLIVER, A.M., M.D.,

OF PHILADELPHIA, PENNA., U.S.A.

J. L., a 23 year old engineer, applied at my clinic at Wills' Hospital two hours after having been hit in the left eye with "a piece of red-hot chisel forging." The patient had been standing at right angles to a fellow workman who had struck the heated metal with a hammer, the injured eye being upon the opposite side. A physician, who was immediately summoned, removed a slightly wedge-shaped mass of steel, two centimetres long, one and seven-tenths centimetres wide, and seven-tenths and five-tenths of a centimetre thick, from the remaining portion of the eyeball. The mass weighed about 34 grammes.

The appearance of the eye when first seen by me, was remarkable. The anterior segment of the eyeball, including the cornea, the greater portion of the ciliary zone of the sclera, the iris, the crystalline lens, the ciliary body, and the muscles, were gone. Through the large irregular opening in the sclera could be seen the dry and partially burned inner surface of the remaining portion of the sclerotic. Not a trace of the intra-ocular tunics or the vitreous humor remained: the eyeball was completely eviscerated.

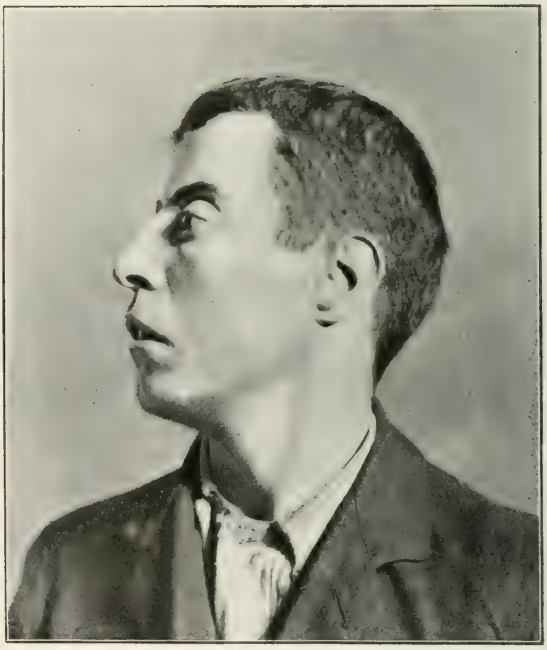
The borders of the remaining conjunctiva were burnt, and the lower-outer portion of the membrane was torn and ragged. Both the upper and the lower lids had their middle thirds almost entirely destroyed. The edges of the injured tissues were so seared that they were friable, analgesic, and free from hæmorrhage.

The piece of steel could be fitted into the large gaping wound-cavity with the greatest exactness.

I removed the remaining sclera, excised the useless tissues, saved every available part of the conjunctiva, exsected the tendinous extremities of the exterior ocular muscles, and repaired the lids to the best advantage.

Convalescence was uneventful, and recovery rapid.

Later, a series of skin grafts were taken from the inner surface of the patient's arm and placed upon the desired-for portions of the lid-surfaces: these gave excellent results.



A CASE OF OXYCEPHALY.

By ROSA FORD, M.B.Lond.

The fellow eye, which was normal at the time of the accident (fourteen years ago), has remained healthy ever since.

Remarks.—The extreme rarity of an accident by which the entire interior fluids and structures of an eye were instantly destroyed, without extending through the posterior portion of the eyeball, by a single mass of superheated material driven at a great speed directly into the organ; the probability that the sudden immersion of a superheated mass into the humors of an eyeball so cooled the foreign body that its destructive burning power was almost immediately lessened or even lost; the rapid sealing of the vascular channels and lymph spaces in the parts surrounding the burned area, by which all undue tendency to infection was prevented; and the possibility of the saving of a life by the receipt of such a large and dangerous missile into a protective situation as it were—are all, it seems to the writer, of sufficient interest to admit this brief record of the case among the curiosities of ophthalmic practice.

A CASE OF OXYCEPHALY.

BY

ROSA FORD, M.B. (LOND.),

CLINICAL ASSISTANT TO THE ROYAL EYE HOSPITAL, SOUTHWARK, LONDON.

The following case of this uncommon condition differs from some of those already published, in that there is no atrophy of the optic discs and no nystagmus.

A male, aged 23 years, came under the care of Mr. R. W. Doyne at the Royal Eye Hospital for shortness of sight. The vision had been bad for 8 years. The patient was somewhat undersized (height 5 ft. 1 in.: weight 7 stone), and rather slow and dull. His appearance was striking by reason of a peculiar conformation of the skull, and of a moderate amount of exophthalmos.

The *head* looked as though it had been compressed laterally, the vertical diameter being thus increased, and the transverse decreased. The forehead was high and dome-shaped, the superciliary ridges poorly developed, and above the latter ran a slightly marked horizontal furrow. The nasal bones were deflected to the right; this was attributed to an accident to the nose, which, it was stated, had been straight before. Measurements: circumference of head, 51 cms., bin-auricular arch, 36 cms., naso-occipital arch, 34 cms.

There was no deformity of hands or feet, of palate or uvula, or, indeed, of any other part of the body.

Both *eyes* were prominent, the right more so than the left. There was no nystagmus, even on ophthalmoscopic examination. Both discs were normal. Diameters of the corneæ in usual proportion.

Right eye.—Slight ptosis. Myopia 10 D., and 1 D., astigmatism "with the rule." Vision, corrected = $\frac{6}{12}$. Large crescent, chiefly below the disc, but also less marked at its inner and upper borders. Left eye.—Divergent strabismus, 12½°. Myopia 9 D., with 1 D., of astigmatism "with the rule." Vision, corrected = $\frac{6}{12}$ partly. Large crescent, slightly less well marked than in right eye, chiefly inferior to the disc, but reaching also up the inner border. In the macular region, over an area the size of a disc, deficiency of pigment, so that the choroidal vessels could be seen. The lower part of this area was crossed by ill-defined bands of pigment.

The exophthalmos was non-progressive, and had existed from birth.

One brother has hare-lip and probably cleft-palate. The mother, who is dead, was stated to have been very short.

ON A SINGULAR CASE OF RESTORATION TO SIGHT.

BY

C. Bell Taylor, M.D.,

SURGEON TO THE NOTTINGHAM AND MIDLAND EYE INFIRMARY.

I was consulted by a gentleman in his ninetieth year, who had been blind from cataract in both eyes for upwards of nine years. The right eye had been operated on without benefit by one of our most distinguished ophthalmic surgeons, and I was assured that the case was considered quite hopeless.

I elected to operate first upon the eye which had already undergone extraction, and accordingly excised a small piece of iris, tore out some dense capsule, and then punctured the hyaloid fossa, with the result that within ten days he was able to read small print with a glass, and had most excellent distant vision without any glass at all.

I subsequently operated on the left eye *secundem artem*, with similar excellent results.

I have operated successfully on several patients over eighty years of age for cataract, and upon one in his ninety-seventh year. The case I have just recorded, however, is quite exceptional, since the patient had apparently been given up by competent authorities before I saw him.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—DISEASES OF THE LACRYMAL GLAND.

(1) **Moretti (E.)—A case of suppurative orbital dacryoadenitis, consecutive to facial erysipelas.** *Annali di Ottalmologia*, Vol. XXXIV (1905), Fasc. 1-2, pp. 3 and 32.

(2) **Pritchard, Eric L.—Non-traumatic dislocation of the right lacrymal gland.** *Trans. Ophthalmological Society*, Vol. XXVI (1906), p. 139.

(3) **Collomb, A., and Doret, F.—Traumatic luxation of the lacrymal gland.** (La luxation traumatique de la glande lacrymale orbitaire.) *Rev. méd. de la Suisse Romande*, 20 juin, 1906.

(4) **Goldzieher, M.—A case of sarcoma of the lacrymal gland, with some remarks on autophagismus.** (Ein Fall von Tränendrüsensarkom nebst einigen Bemerkungen über Autophagismus.) *Centralbl. f. prak. Augenheilk.*, März, 1906.

(5) **Giani, Pietro.—A case of bilateral dacryoadenitis complicating acute urethritis.** (Sopra un caso di dacrioadenite bilaterale durante il decorso di blenorragia uretrale acuta.) *Rivista di Ottal.*, June, 1906.

(6) **Casali, A.—Two cases of acute dacryoadenitis.** *Annali di Ottalmologia*, Vol. XXXV (1906), Fasc. 3-4, p. 191.

(1) Among the numerous cases of acute dacryoadenitis scattered through literature, those of Sgrosso alone 1890) give a detailed microsopical examination, and that of Pes (1900) a bacteriological report, although the latter, it is true, was negative. **Moretti** insists upon the streptococcal orgin of his case, as shown by examination of the pus liberated by an exploratory incision into the inflamed gland. The ocular symptoms commenced the day after erysipelas of the cheek, etc., had been noticed, although a week elapsed before the acute syndrome of orbital cellulitis and of dacryoadenitis declared itself. From a review of the literature Moretti concludes that:—dacryoadenitis is a somewhat rare affection; it may involve the orbital or the palpebral portion of the gland, although it rarely affects both at the same moment. Palpebral decryoadenitis is commoner than the other condition; and, finally, palpebral decryoadenitis is generally

bilateral and terminates in resolution, whereas orbital dacryoadenitis is usually unilateral and ends in suppuration. Moretti believes that in his own case the streptococcus reached the glandular tissue by way of the lymphatics, and not by the excretory canals, the cellulitis having preceded the dacryoadenitis. A. ANTONELLI.

(2) **Pritchard's** patient, a woman of 43 years, had noticed for four years a reducible swelling in the right upper eyelid, which had made its appearance suddenly after a fit of weeping lasting for twenty-four hours. The lump, which represented a luxated lacrymal gland, was said to become larger when the patient cried. A. G. P.

(3) **Collomb and Doret** describe a case of this rare condition, of which they have found only 17 other reported cases.

A boy, aged $5\frac{1}{2}$, fell from a height of about 8 feet on to ground covered with sharp-edged stones. Thirty hours later, when seen, a fleshy, pedunculated, vaguely bilobed mass, the size of the lacrymal gland, protruded through a wound in the upper eyelid, the pedicle coming from the deep parts, at the supero-external angle of the orbit. Evidently this mass was the prolapsed lacrymal gland. The wound was enlarged, the gland returned, and the wound sewn up, slight drainage being permitted. Result excellent.

All the published cases have had a similar mode of production, *viz.*, a violent fall on the face, the orbital region striking some sharp edge, which divides the lid and opens the capsule of the gland. The ages of the patients vary from 1 to 24, most being under 6 years. The occurrence is thought to be due to the supposed less firm fixation of the gland in early life; or, as the authors think more likely, to shallowness of the orbital vault, consequent upon the slight formation of the orbital ridge in young children, thus leaving the gland less protected. Removal of the gland is easy, and apparently leaves the eye unharmed; but, as the function of the gland is not accurately known and reduction has given good results, this operation is recommended.

ROSA FORD.

(4) **Goldzieher** reports the case of a woman, 42 years of age, who suffered from a tumour of the left lacrymal gland, which gradually increased in size, causing proptosis and displacement of the eye-ball downwards. This tumour was removed, and microscopically was found to consist almost entirely of small round cells with occasional inclusions of remains of normal gland tissue. It was, therefore, a small round-celled sarcoma, starting from the connective tissue of the gland. Scattered irregularly through the tumour were large faintly-staining cells with one fully-formed nucleus, containing within itself remains

of many nuclei. These resembled the macrophages of Metchnikoff, but were probably derived from the cells of the tumour itself, and were not phagocytes of hæmatogenous origin. Young and vigorous cells, devouring old and worn-out tumour cells and the included nuclei, could be seen at all stages of destruction. There was a close resemblance between these cells and certain cells found in trachoma granules, and both are probably of the same nature. A. LEVY.

(5) Inflammation of the lacrymal gland as a complication of urethritis has been recognised only during the last few years. In the case which forms the text of **Giani's** paper, the patient was a young man who had suffered for ten days from gonorrhœa. The eyelids became considerably swollen, with much pain and some fever. The pain was specially marked at the outer angle of the eyes. The conjunctiva became somewhat œdematous, but there was hardly any discharge. The inflamed gland could be felt, hard and tender, under the edge of the brow. The other parts of the eye were normal, and the bacterial examination of the conjunctival discharge showed no gonococci. The treatment adopted was by the application of cold compresses and antiseptic lotions, and, internally, by small doses of salicylate of quinine. Under these measures the disease soon came to an end. The question whether the inflammation was due to the cocci or to their toxins cannot be definitely settled; the absence of the cocci from the tissues, as inferred from the negative results of inoculation, points to the action of toxins, but many surgeons regard the distant manifestations of gonorrhœa, iritis, etc., as metastases. H. GRIMSDALE.

(6) Of the two cases described by **Casali**, the first represents a metastatic gonococcal dacryoadenitis, while the second is analogous to a case of Lagrange, seeming to prove, like the last-named, that there is such a thing as acute inflammation of the lacrymal gland associated with amenorrhœa. Casali's second patient was 23 years of age, and although no definite affection could be found, still she suffered from general debility and from suppression of the menses (three months). A. ANTONELLI.

II.—AFFECTIONS OF THE LACRYMAL PASSAGES.

(1) **Maggi, F.—A contribution to the study of primary tumours of the lacrymal sac.** *Annali di Ottalmologia* Vol. XXXV (1906), fasc. 10-11.

(2) **Monesi, L.—Experimental researches upon the lacrymal passages.** *Annali di Ottalmologia*, Vol. XXXV (1906), fasc. 10-11.

(3) **Finochietto.—Modern treatment of chronic dacryocystitis.** (El tratamiento moderno de las dacriocistitis cronicas.) *Anal. de Oftal.*, Abril, 1906.

(4) **Cosmettatos, F. G.—Some congenital deformities of the lacrymal apparatus.** (Ueber einige angeborene Anomalien der Thränenwege.) *Archiv f. Augenheilk.*, August, 1906.

(4A) **Petella.—On the clinical value of the conservative methods of treating dacryocystitis.** (Sull'estensione e sul valore clinico del metodo conservativo della cura delle dacriocistiti.) *La Clinica Oculistica*, October and November, 1906.

(5) **Stephenson, Sydney. — Affections of the lacrymal apparatus.** *Lancet*, February 9, 1907.

(6) **Parsons, J. Herbert.—On the treatment of lacrymal obstruction.** *Brit. Med. Journal*, February 23rd, 1907.

(7) **Evans, J. Jameson.—The lacrymal sac in the economy of vision.** *Brit. Med. Journal*, February 23rd, 1907.

(8) **Percival, A. Stanley.—Defective development of left canaliculus.** *Brit. Med. Journal*, March 9th, 1907.

(1) Primary tumours of the walls of the lacrymal sac are rare, and their early diagnosis is by no means easy. The few cases of the kind that have been published are the work almost exclusively of the Napolitan school of ophthalmology, *i.e.*, of Vincentiis and of his pupils. **Maggi**, of Pisa, now adds an instance of perithelial sarcoma in a woman, aged 56 years. The clinical history of the case rendered it probable that the neoplasm had originated from one or more small polypi of the wall of the sac, which had formed in consequence of chronic dacryocystitis.

A. ANTONELLI.

(2) **Monesi's** experiments, which included wounding, probing, scraping, and introducing pieces of glass into the lacrymal passages of the rabbit, possess merely a relative interest, since it is doubtful how far the results he thereby obtained can be applied to man, a point that the author himself is the first to admit.

A. ANTONELLI.

(3) **Finochietto** thinks that when any operation for removal of the lacrymal sac must be undertaken, the procedure should be completed as recommended by Aubaret, namely, by making a large hole through the lacrymal bone, and draining the cavity of

the wound freely to the nose. This he calls indispensable to success; but there can be no doubt that such drainage is not necessary to a large proportion of cases, which heal by first intention without such drainage. Where secondary infection from the nose seems probable, the removal of the mucus membrane of the duct, as in the method of Cirincione, is preferable on all accounts. HAROLD GRIMSDALE.

(4) **Cosmettatos** has observed the following anomalies of the lacrymal apparatus.—He has found the lower canaliculus represented by a grove, two canaliculi in one lid, the canaliculus absent, the punctum lacrymale occluded, and a congenital fistula leading into the lacrymal sac. The nature of the various conditions is discussed, and the mode of formation explained.

PERCIVAL J. HAY.

(4A) In this long and interesting paper, **Petella** combats the idea, which is at present gaining ground, that there is no treatment for dacryocystitis except *lavage* and excision of the sac. He points out that it is often possible to bring about a cure of the diseased mucous membrane, if we know the condition thereof. Conservative methods have often failed because they were employed by rule-of-thumb without due consideration. The first step towards adequate treatment is correct diagnosis, and there are three ways of examining the condition of the lacrymal passages, *viz.*, by the sound, by *lavage*, and by inspection. This last can be used only after an incision of the anterior sac-wall. Petella recognises that excision of the whole excretory apparatus is often required, since the duct in many old-standing cases is reduced to a mere cord of connective tissue, but when the stricture is local, he recommends the use of electrolysis, which, with proper care, is often successful and can do no harm; on this, and constant irrigation, he places most confidence.

HAROLD GRIMSDALE.

(5) **Stephenson's** comprehensive communication does not lend itself to abstract. It may, however, be noted that he speaks in high terms of argyrol, protargol, and sophol, in the non-surgical treatment of chronic dacryocystitis, especially when that affliction is of tolerably recent date. The systematic use of the syringe, also, will cure many cases. Powerful adjuvants in many cases are douches of the nasal cavities and cauterisation of the hypertrophic mucous membrane. Extirpation of the lacrymal sac, although by no means always easy to perform, particularly in children, usually yields excellent results.

(6) **Parsons** believes that the treatment of lacrymal obstruction by means of probes is calculated to do more harm than good, inasmuch as no matter how skilfully the little operation is done, it is impossible to avoid wounding the epithelium and sub-

jacent parts with the instrument. The same objection, in the author's opinion, applies to the use of styles. On the other hand, the employment of the syringe results in cure, if the case has never been treated with probes, while if it fails, extirpation of the lacrymal sac offers a radical cure. With regard to details, Parsons first dilates the lower punctum, and then passes the probe-pointed straight nozzle attached to a Luër's glass syringe into the lacrymal sac, into which he injects several syringefuls of boric lotion or saline solution every day. If fluid fail to pass after a week of this treatment, the author employs a mild astringent, such as zinc sulphate, grains 1 or 2 to the ounce of water, and after several syringefuls have been introduced, passes a little protargol, 10 to 15 per cent., into the sac. When fluid passes freely into the nose, the interval between successive syringings is increased, and in some cases the patient himself is taught how to use the instrument. The communication ends with some remarks upon the treatment of lacrymal obstruction in children.

(7) **Evans** states that the conjunctival secretion ought to be bacteriologically examined as a matter of routine in all cases of operation which involve penetration of the eyeball. He questions whether ligation of the canaliculi can ever be effectual in preventing the passage of micro-organisms from the lacrymal sac to the conjunctival sinus. That the usual form of treatment of chronic dacryocystitis, as by probing and the injection of the sac and duct with antiseptic and astringent lotions, or by the wearing of styles, is not satisfactory is shown by the fact that such treatment is often carried on for ten or fifteen years without any very material benefit to the patient. In our present state of knowledge, Evans believes the only effectual method of treating chronic dacryocystitis to be by removal or obliteration of the lacrymal sac. The operation is described, and the communication ends with the indications for its performance.

(8) In **Percival's** patient the left lower canaliculus looked as if it had been slit up and imperfectly united. No operation, however, had ever been performed.

III.—XANTHOMA OF THE CONJUNCTIVA.

v. Duyse.—Double and symmetrical xanthoma of the bulbar conjunctiva. (Xanthome double et symétrique des conjonctives bulbaires.) *Beiträge zur Augenheilkunde. Festschrift Julius Hirschberg,* 1905.

Although xanthoma is not uncommon on the skin of the lids (Pœnagen found the lids attacked in 92 out of 103 cases of xanthoma), it is but rarely found in other situations, *e.g.*, on mucous membranes, serous membranes (capsule of spleen), intima of vessels, endocardium and pericardium, and, in one case, the cornea (Hirschberg).

v. Duyse gives the first reported case of xanthoma on the bulbar conjunctiva. In a woman of 47 years there were four xanthomata, one on either side of each cornea, and occupying the palpebral fissure. They protruded a little, and thus hindered the movements of the lids, on which account removal was desired. They had been noticed for about eighteen months, and had grown but slowly. There were also xanthomata on the lids; in the right eye, surrounding the internal canthus; and in the left eye, at the external third of the upper lid; that is to say, not in the usual situations. There were other growths on the face, body, and arms. The ocular tumours were removed, and showed the usual microscopical structure of xanthomata. One was adherent apparently to the capsule of the internal rectus. The only points of importance in the ætiology were the fact that the patient was markedly nervous, that she had an attack of ? gall-stone colic, and that 12 years previously she had suffered from persistent digestive trouble, with slight jaundice and pronounced wasting. The urine, however, contained no albumen or sugar. Nine months later, most of the tumours on the body had disappeared, or were disappearing. This case is, then, another instance of the involution of non-diabetic xanthomata. There was slight recurrence of the epibulbar tumours, and a fresh small plaque of xanthoma on the left caruncle.

Conjunctival xanthomata must be distinguished from (1) the multilocular cysts of Fehr and others, which glide over the sclerotic, and in Fehr's three cases did not occur in the palpebral fissure; (2) Dermoids, lipo-dermoid, and lipomata, which are congenital; (3) Angio-fibromata (Gonin).

Several cases are reported of recurrent anthxoma, and it has been stated that xanthoma may invade deeper tissues down to the periosteum, but its malignity is very slight as compared with that of endothelial sarcomata, and, as a rule, it is quite benign.

Three varieties of xanthoma may be recognised. (1) Diabetic, characterised by rapidity of evolution, hyperæmic areola, hardness, localisation on extensor surfaces, the lids remaining free (though as regards this latter point Bosellini (1902) asserts the contrary), and by rapidity of involution under treatment. (2) Juvenile,—congenital or precocious, due to heredity and without tendency to cure. Rarely on lids (Chauvière). (3) Adult,—appears late, frequently on lids, curable. Suggestion of slight

hepatic insufficiency in these cases. Hardaway and Champard have noted eruption of xanthomata on the track of certain nerves. Birch-Hirschfield suggests a connection between the caruncle and the lid xanthomata, since these latter are always on the inner parts. R. FORD.

IV.—MELANOSARCOMA OF THE CILIARY BODY.

Caspar, L.—A melanosarcoma of the ciliary body. (Zur Melanosarkom des Ciliarkörpers.) *Centralbl. f. Augenheilk.*, August, 1906.

Caspar reports a remarkable case. He first saw, in 1901, a lady then 36 years old, who had at the inner and lower angle of the anterior chamber of the left eye. a dense, black, sausage-shaped tumour. The iris in its neighbourhood showed a somewhat yellowish discolouration. The pupil was displaced slightly up and out. The lens at the inner and lower border showed fine opacities. In the vitreous, at a corresponding point, large black tumour masses could be seen arising apparently from the ciliary body. V.= 5/10. The case was obviously one of melanotic sarcoma of the ciliary body. The curious part is the history. At the age of 18 it commenced as a fine black line at the angle of chamber, and it gradually grew until now. It had been seen then and since by many surgeons, who advised enucleation, which the patient refused. And now she still refuses to have anything done. Caspar was able to see her at intervals during the next five years (for the last time, June, 1906), and the condition had become much more extensive, and the lens had become more opaque. Patient still refused to have anything done. This sarcoma, then, has been growing for 23 years, and the end is not yet. It is even doubtful whether now one would advise enucleation, since it is possible that such a procedure would cause a more rapid dissemination than would otherwise take place. A. LEVY.

V.—CYANOPSIA AFTER CATARACT EXTRACTION.

Enslin, E.—On blue vision after cataract extraction.* (Ueber Blausehen nach Starausziehung.) *Zeitschr. f. Augenheilkunde*, Februar, 1906.

*See communication by R. H. Elliot, I.M.S., on "Coloured Vision after Cataract Extraction," in THE OPHTHALMOSCOPE of January 1st, 1906.—EDITORS.

Enslin draws attention to the occasional occurrence of blue vision after cataract extraction, more especially of dense nuclear cataracts which have lasted for some time. He is of opinion that the explanation usually given of erythropsia under similar circumstances will not hold good for this phenomenon, there being no blue analogous to the visual purple in the human eye. The blue vision generally comes on immediately after delivery of the lens, or on removing the bandages, and lasts for a variable time, up to two or three weeks. The explanation given by Enslin is that the dense yellow nuclear mass absorbs all the blue rays for a long period of time, and then suddenly on its removal the eye is flooded with blue rays, which it has not received for a long time, and thus it obtrudes itself more intensely on consciousness. Cases of cyanopsia in disease, etc., obviously must have another explanation, and are then to be referred to a central cause. A. LEVY.

VI.—INTERSTITIAL KERATITIS AND TRAUMATISM.

Zuslin, E.—Interstitial keratitis and trauma. (Keratitis parenchymatosa und Trauma.) *Zeitschr. f. Augenh.*, März, 1906.

Readers of THE OPHTHALMOSCOPE are familiar with this group of cases, from a communication by H. W. Dodd in 1904. **Zuslin** now reports another case fully, and refers to still another one. The first patient, a young man in whom no evidence of inherited syphilis could be found, received an injury to one eye. The latter immediately became reddened, and this persisted until in a fortnight a well-developed interstitial keratitis appeared, which lasted for about four months. The other eye remained unaffected. Incidentally, Zuslin maintains that there are two definite forms of interstitial keratitis—a vascular, the usual form, and an avascular form, of which this case was an example. In these cases no newly-formed blood-vessels can be seen. As evidence of the identity of the two forms, he cites the case of a patient who had an avascular interstitial keratitis in one eye, which was followed in two months by an ordinary typical interstitial keratitis in the other eye. A. LEVY.

VII.—HÆMORRHAGIC AFFECTIONS OF THE EYE.

(1) **Chevalier.**—A case of intra-ocular hæmorrhage. (Une observation d'hémorrhagie intra-oculaire.) *L'Ophtalmologie Provinciale*, II, p. 44, juin, 1905.

(2) **Motais.**—Spontaneous intra-ocular hæmorrhages. (Les hémorragies intra-oculaires spontanées.) *L'Ophtalmologie Provinciale*, II. 65. juillet, 1905.

(3) **Stevens, E. W.**—Retinal hæmorrhages in apparently healthy eyes. *Ophthalmology*, January, 1906.

(4) **Lobel.**—A case of atrophy of the optic nerve and hæmorrhages at the macula, supervening during lactation. (Un cas d'atrophie du nerf optique et d'hémorrhagies de la macula, survenues pendant l'allaitement.) *Recueil d'ophtalmologie*, janvier, 1906.

(5) **Didikas.**—Sudden loss of vision from intra-ocular hæmorrhage and its treatment. (Perte subite de la vision par hémorrhagie intra-oculaire et son traitement.) *Ann. d'oculistique*, T. CXXXV, p. 210, mars, 1906.

(6) **Béal, Raymond.**—On retinal hæmorrhages in compression of the thorax. (Des hémorrhages rétiniennes dans la compression du thorax.) *Ann. d'oculistique*, T. C.XXXV, p. 353, mai, 1906.

(7) **Dujardin.**—Hæmorrhagic glaucoma in an adult. (Glaucoma hémorrhagique chez un adult.) *La Clinique Ophtalmologique*, 25 août et 10 septembre, 1906.

(1) **Chevalier's** patient enjoyed good health up to the age of 30 years, when he suffered from dyspepsia and hæmatemesis, diagnosed as due to gastric ulcer; at the age of 34 he lost the sight of his left eye from intra-ocular hæmorrhage, followed by optic atrophy, retinitis proliferans, and a patch of choroido-retinal atrophy. Three years later his right eye also became blind, as the result of an intra-ocular hæmorrhage causing diffuse opacities of the vitreous which persisted for over 2½ years without permitting a satisfactory examination of the fundus. No general condition could be found to explain the hæmorrhages.

R. J. COULTER.

(2) As the result of study of twenty-five cases of spontaneous intra-ocular hæmorrhage seen in the course of over twenty years, **Motais** has formed the following conclusions:—The pathogeny of the disease is obscure; numerous general maladies have been noted as co-existing with it, but none of them is sufficiently

frequent to be considered as causal; the male sex is much more frequently affected than the female, but temperament does not seem to have any marked influence; in the author's cases the first attack was not confined to adolescence, but occurred at ages varying from ten to forty-five years, and took place most commonly in spring, although recurrences were uninfluenced by the season of the year. The seat of hæmorrhage may, in order of frequency, be in (1) the choroidal capillaries; (2) the peripapillary capillaries and small vessels; 3 the branches of the central vein; (4) the branches of the central artery. With regard to the course of the disease, both in original attacks and in recurrences, the onset is usually sudden, and the maximum may be reached instantaneously or in the course of several hours. As a rule, the invasion is almost fulminating in ruptures of the central vessels, rapid in peripapillary hæmorrhage, and slower in capillary hæmorrhages of the choroidal periphery: recurrences are very common, and it is not safe to count on a cure until two years have elapsed without any sign of a fresh hæmorrhage. The prognosis must be guarded, and the ultimate result may be (*a*) normal vision, (*b*) good central vision with peripheral scotomata, (*c*) passable vision, (*d*) absolute blindness; peripapillary hæmorrhages are the least grave form of the affection, choroidal hæmorrhages come next, and hæmorrhages from the central vessels are the most serious. Treatment, as a rule, is useless, but in two relapsing cases, with increased tension, Motais claims to have obtained cures as the result of large iridectomies. The author records an interesting case in which he had the opportunity of watching the development of a peripapillary hæmorrhage which commencing over the inner and lower half of the papilla, spread first as a fine thread along the course of the hyaloid canal, then covered the lower half of the posterior surface of the lens, and, finally, invaded the substance of the vitreous and extended to the upper part of the eyeball.

R. J. COULTER.

(3) **Stevens** says that "primary retinal hæmorrhages may occur from the following general conditions:—1. Blood changes: purpura, pyæmia, septicæmia, scrofula, pernicious anæmia, and parasitic blood affections. 2. Cardiac diseases. 3. Embolic processes and thrombosis. 4. Disturbances of menstruation. 5. Accidental, including retinal hæmorrhages at birth, and (6) high arterial tension." He believes that primary or independent retinal hæmorrhages in the adult are comparatively uncommon.

As a result of his own experience, Stevens has found that young men, and more uncommonly, young women, between the ages of fifteen and thirty years, appear to be exposed to attacks

of relapsing retinal hæmorrhages. "While in good physical condition, these hæmorrhages come on suddenly. The hæmorrhage is absorbed somewhat rapidly and there may be no trace of it left. New hæmorrhages soon follow, and in unfavourable cases, the vitreous becomes hazy, with the formation of connective tissue as a sequel to the hæmorrhages, resulting in blindness from degeneration of the vitreous body and retinal detachment."

He has found that the prognosis of these cases is always doubtful, and treatment, on the whole, seems of but little value.

C. A. O.

(4) **Lobel's** case was that of a woman, æt. 27 years, with a tuberculous family history, but a good personal history. She had one miscarriage at five months. Her second child she suckled for 12 months, and then the lacteal secretion was suddenly arrested and menstruation established; the course—habitually little sanguineous and lasting three days—being on this occasion abundantly metrorrhagic and lasting 15 days. Since then the patient's character changed, being continually bad-tempered, and her memory became defective.

A year after the commencement of this trouble her condition was as follows:—Left eye: V.= $\frac{8}{10}$ c. + 75 D. cyl. axis 60° temp.: fundus normal: field full. Right eye: V.= Pl. Pupil reacted to light, media clear, disc well-defined and whitish, arteries contracted. In the region of the macula there were some small satin-white atrophic patches, the result of old hæmorrhages. Field contracted. Large central scotoma. Heart and pulse normal. Urine normal. Reflexes normal. Patient morose and memory feeble.

Among eye troubles attributed to suckling, the following have been recorded:

Inflammation of the lid margins and conjunctiva, herpes of the cornea, keratitis, dacryoadenitis, choroiditis with retinal hæmorrhages, and papillitis rapidly leading to atrophy of the nerve, hemeralopia, subretinal hæmorrhage, and double optic neuritis with paralysis of the left sixth and seventh nerves. In two cases the papillitis was associated with headache and vomiting.

One or both eyes may be involved. The trouble may be repeated at each suckling and may result in total blindness, but, as a rule, the prognosis is favourable, except in cases where the macula is the seat of a destructive lesion.

The pathogenesis of these eye lesions is difficult to explain. Henczel is of opinion that they are the result of auto-intoxication, whilst Cohn thinks that lactation acts as exciting cause in setting up a disease which has been latent during pregnancy or immediately after parturition. Berger and Terrien regard the condition as of infective origin, the infective focus being

primarily in the genital organs. Himly regards some of the cases as supplementary or vicarious hæmorrhages. It is possible that in those cases which presented head symptoms the cessation of lacteal secretion instead of being the cause of the ocular symptoms is itself dependent on a cerebral affection.

J. Jameson Evans.

(5) **Didikas'** patient, a woman, aged 48 years, with a very complicated medical history, lost the sight of her right eye from intra-ocular hæmorrhage. Under treatment with intra-muscular injections of mercury cyanide, iodide of potassium, hot foot baths, and salicylate of lithia, dry cupping on the back, and hot compresses to the eyes, the central vision became normal, although there was a partial detachment of the retina downwards and outwards, accompanied by a corresponding defect in the field.

R. J. Coulter.

(6) **Béal** gives the history of a case of retinal hæmorrhage following compression of the thorax, which he states to be the sixth recorded, and considers to be important from a medico-legal point of view. The patient, a man, aged 49, was caught between two heavily-laden waggons, and kept pinned between them in an upright position for ten minutes, during which time his face was swollen and violet coloured, and his eyes stood out of his head. The pressure was applied suddenly in a sagittal direction and at the moment of the accident the man saw with his right eye something like a yellow firework, and then became unconscious for 20 minutes. On coming to himself he saw a shower of red drops lasting five or six minutes, and his sight was very misty, there was no hæmorrhage from the nose, mouth, or ears, no ecchymosis, exophthalmos, or swelling of the face, and the cyanosis disappeared rapidly, but for twelve days the patient spat up blood. At the end of three weeks the patient had recovered from everything but the defective vision. When first seen by the author, seven weeks after the accident, the man was found to have V=R. 1. opt., L. 7 opts. The peripheral fields of both eyes were full for both white and colours, but there was an absolute central scotoma in the right eye measuring six to eight degrees. The right pupil was dilated and its reaction to light diminished, while the consensual reflex was absent from the left eye. Ophthalmoscopically there was slight temporal discolouration in each eye, while in the right there was an oval macular hæmorrhage, and in the left a small pigmented *plaque* of atrophic choroiditis in the supero-internal quadrant. General examination revealed nothing abnormal except a functional *bruit-de-galop* and a diminution in the coagulability of the blood. Two months later the central vision of the left eye was unaltered, but the right eye could only count fingers at one

metre and the peripheral fields of both eyes were contracted concentrically and in sectors for both white and colours, while the discs showed definite signs of optic atrophy. Although there was no history of syphilis and no sign of the disease, except the choroidal *plaque* in the left eye, the author considers that both the macular hæmorrhage and the optic atrophy in his case were due to increased blood pressure acting on vessels already damaged by syphilitic endarteritis.

Béal gives a detailed account of the lesions in the cervico-facial region which may follow compression of the thorax, which is not sufficiently severe to cause rapid death. These are extreme congestion of the face and protrusion of the eyeballs with or without the formation of ecchymoses of the skin and naso-pharyngical mucous membrane, subconjunctival ecchymoses, pupillary troubles, intra-orbital hæmorrhages, micropsia, temporary blindness, and hæmorrhages in the retina or vitreous. With the exception of the last two, the effects of which do not differ from those produced by similar lesions arising from other causes, these undergo spontaneous cure. The exophthalmos and cutaneous lesions are due to congestion and the latter cease abruptly whenever there is any counter pressure, *e.g.*, at the level of the collar. The pupillary troubles have been so imperfectly studied that no conclusions can be formed as to their causation. The temporary amblyopia has been ascribed to pressure on the optic nerve from an orbital hæmatoma and to œdema of the optic nerve or of the choroid, but the author believes that it is more likely due to commotio retinæ from sudden increase in blood pressure. The retinal and vitreous hæmorrhages are also due to sudden increase in blood pressure, but are very rare, probably because the support given to the vessels by the naturally high intra-ocular pressure prevents them from rupturing unless their walls have been weakened by previous disease. R. J. COULTER.

(7.) **Dujardin** relates a case of typical hæmorrhagic glaucoma in the right eye of a man of 28, whose other eye was blind from glaucoma without sign of hæmorrhages. Vision of 1/6 was preserved in the right eye. Dujardin, interested in the cause of hæmorrhages, propounds the question, "Are these retinal apoplexies due to pre-existing alterations of the vascular walls, or must we think of a rupture provoked by exaggerated vaso-dilatation?" Considering the rarity of the former under 30 years, the negative result of examination of the heart in this particular case, and the absence of signs of obstruction of the retinal vessels, Dujardin considers that Abadie's theory of rupture due to excessive dilatation is the correct one.

ERNEST THOMSON.

VIII.—ACTION OF THE X-RAYS ON THE EYE.

Ammann, E.—The action of the Röntgen rays on the human eye. (Zur Wirkung der Röntgenstrahlen auf das menschliche Auge.) *Correspondenz-Blatt für schweizer Aerzte*, 1 August, 1906.

No physiological effect on the retina has been observed through the action of Röntgen rays, although Himstedt and Nagel have proved that there is a slight excitation of the visual cells. Consequently, one would expect the retina to be, in general, somewhat refractory to these rays. **Ammann**, however, shows by the following case that the retina may be affected indirectly and the optic nerve directly:

A small sarcoma of the choroid was diagnosed in the right eye of a man aged 30 years, situated on the temporal side just behind the ciliary body. The rest of the fundus was normal, and vision, corrected with + 3 D. sph., was 0·5. Röntgen rays were used on three successive days, for seven minutes at a time, a tube of medium softness being applied directly to the sclera, over the site of the tumour, and held horizontally, sometimes a little above the centre of the pupil, sometimes a little below. Before treatment, growth had obviously been slow, since symptoms (limitation of the field of vision) had been observed for half a year previously. During the following month, however, growth was rapid. Moreover, retinal displacement was noticed in the lower part of the fundus in the first week, which increased in height during the second week, and then remained stationary. At the end of the second week, slight neuritis was noticed. Vision at 5½ weeks was 0·05, the fundus remaining as before. The eye was then enucleated *Post-mortem*, the tumour, which was very circumscribed, showed no trace of the degeneration one might have expected from the action of the rays. The usual changes of neuritis were present. There were several small retinal displacements on the temporal side of the nerve, and one larger one on the nasal side. The retina over these showed the changes usually found in displaced retina. Ammann points out that the rays had evidently acted almost exclusively on the choroidal capillaries, as shown by the situation of the exudate, although they themselves showed no change; also that from analogy to the effect produced by the rays on the skin, the exudate may be looked upon as inflammatory. It was present only at the parts acted upon directly by the rays, except when gravity had caused it to collect lower down, and the effect was more marked at points opposite to the tube, than at points

nearest to it Treatment was quite moderate. Birch-Hirschfeld found, in his case, changes in the retina, in the vessels, ganglion cells, etc. Ammann concludes that the sensitiveness of individuals to Röntgen rays is variable. Slight external reaction is not, as a rule, held to contra-indicate further treatment, but the above case serves as a warning that it is necessary to shield the eye securely when surrounding parts are being treated, and that when the rays are used for diagnostic purposes, exposure should be as brief as possible. Soft tubes are less likely to do permanent damage than hard ones. ROSA FORD.

IX.—FOREIGN BODIES IN EYE AND ORBIT.

(1) **Hirschberg, J.—Iron splinter in the lens: blindness from increased tension. (Eisensplitter in der Linse: Erblindung durch Drucksteigerung.)** *Centralbl. für prak. Augenheilkunde*, Februar, 1905.

(2) **Hirschberg, J.—A rare orbital injury. (Eine seltene Orbital-Verletzung.)** *Centralbl. für prak. Augenheilk.*, April, 1906,

(3) **Hansell, Howard F.—Foreign body in the crystalline lens, extracted by the electric magnet.** *American Medicine*, June, 1906.

(4) **Kreuzberg.—Some remarks on wounds of the eyes by iron foreign bodies. (Einige Beobachtungen bei Eisensplitter-Verletzungen des Auges.)** *Centralbl. f. prak. Augenheilk.*, Juni, 1906.

(5) **Hirschberg, J.—A case of foreign body in the orbit. (Ein Fall von Fremdkörper in der Orbita.)** *Centralbl. f. prak. Augenheilk.*, September, 1906.

(6) **Taylor, Lewis H.—A case of steel in the eyeball which the Haab magnet failed to remove.** *Trans. Amer. Ophth. Society*, Vol. XI, Part I, 1906.

(1) **Hirschberg** recounts the case of a man, 46 years of age, who two years previously received a perforating wound of his left eye, a piece of steel lodging in his lens. The vision of this eye gradually got worse, and after a year and a half, became totally blind from cataract. Six weeks previous to consultation, the eye became painful and inflamed, and was found to be in a state of glaucoma, T.= +3. The bit of steel could still be seen in the lens. The eyeball was removed. On examination, a glauco-

matous cup was found, the cause of the glaucoma being swelling of the lens. To illustrate the opposite condition, Hirschberg reports a case of a man who, eighteen years previously, was injured by a piece of steel entering the eye and lodging in the retina and structures behind. This foreign body could be seen projecting into the vitreous, covered by a fibrous tissue capsule on which were vessels. The vision of this eye was 5/7, which, however, decreased markedly if the illumination were poor, thus showing that occasionally bits of steel could remain in the eye for long periods of time without causing much damage. This event must, however, be regarded as very rare. A. LEVY.

(2) **Hirschberg** reports the case of a young man who, while driving a wedge beneath a rail, was injured by a fragment of his hammer striking against his right eye. On examination, a wound of the lower lid was found, and a slight retinal hæmorrhage in the inferior nasal quadrant; media clear. The sideroscope gave maximum movement at the inner canthus; less against the sclera; very little on the cornea. The diagnosis of an iron fragment in the orbit was made, and the fragment was removed by the magnet. The foreign body weighed 7.80 mg. Many of these foreign bodies, when small, are best left in the orbit, as the dissection required to find them is elaborate and may fail. In this case the danger of tetanus was present and rendered removal more imperative. The foreign body must have struck the eye with considerable force, as shown by the choroidal hæmorrhage. A. LEVY.

(3) In **Hansell's** opinion, the employment of the small hand-magnet should be limited to foreign bodies in the anterior chamber, while for those in other situations the Sweet magnet answers every purpose. Of the various methods of localisation, the Röntgen rays appeal to him as the most trustworthy. He reports the case of a woman whose eye was wounded by a bit of steel, which perforated the cornea and the iris and lodged in the crystalline lens. The particle was located by means of skiagram as lying partly in the lens and partly in the vitreous, and as being about 4 mm. in length. The magnet cautiously brought to within ¾ inch from the wounded eye succeeded in raising the metallic fragment from its bed and drawing it, accompanied by lens matter, into the anterior chamber. The cornea was then opened as near as possible to the scar marking the point where the foreign body entered the eye, the tip of the magnet was applied to the opening, the current switched on, and the steel extracted. The greater part of the opaque lens was expressed through the corneal wound, and the eye was bandaged. According to the last report from the patient, there was a degree of iritis. In conclusion, Hansell draws attention to a possible fallacy in the localisation of foreign bodies by X-rays,

namely, that the diagrams employed for plotting out the position are calculated for emmetropic eyes and not for those having a high degree of myopia or hypermetropia. Yet clearly ametropic eyes may be wounded as well as emmetropic ones. S. S.

(4) **Kreuzberg** reports several cases of unusual forms of injury to the eye by foreign bodies of iron. Thus, one young man was found to have a 200 mg. piece of iron in his orbit, which had been there for several days—patient not knowing that he had been injured. Another case, where a splinter, so small as to be scarcely ponderable, less than 0·5 mg., was driven into the sclera with such force that it could only be withdrawn by the large magnet acting in the long axis of the splinter. A. Levy.

(5) **Hirschberg** reports the case of a man who was wounded by an iron foreign body in the left eye. It had perforated the upper lid and the sclera, and had caused a large hæmorrhage, which almost filled the vitreous. The magnet was applied to the scleral wound without any effect. The wounds healed up, and six years later the patient came to Hirschberg complaining of intense pain, which was curious, as the eye appeared to be perfectly quiet. An X-ray photograph showed a large foreign body lying against the outer bony wall of the orbit. It was removed, and the pain disappeared for good. This foreign body then cut the sclera, etc., but passed on itself deep into the orbit. A. Levy.

X.—PENETRATING COMPLICATED WOUNDS OF CORNEA.

Kuhnt, H.—The treatment of recent penetrating complicated wounds of the cornea. (Zur Behandlung frischer, komplizierter, penetrierender Verletzungen der Hornhaut.) *Zeitschr. f. Augenheilk.*, April, 1906.

Under this title **Kuhnt** means such injuries of the eye where the cornea is perforated and the lens, or ciliary body, or vitreous, or all of these structures are also implicated. He is strongly of opinion that the corneal wound should be cleansed, rendered smooth and even, to facilitate healing, and that any prolapse of iris should be removed. Further, where there is injury to the lens, so that it is likely to swell, or of the ciliary body, Kuhnt advises that an iridectomy should be immediately done. This is performed by means of the Graefe knife, the part of the limbus where the incision is to be made is rendered firm by being grasped at each end of the proposed incision by a pair of fixation forceps, the necessary

resistance to the knife being thus obtained. Finally, if the lips of the corneal wound gape at all, the whole is covered by a conjunctival flap with two pedicles taken from the sclera above, and fastened down by sutures. In favour of doing the iridectomy at once, Kuhnt adduces the following arguments:— It prevents anterior synechiæ, it facilitates the absorption of lens matter, and prevents the development of secondary glaucoma should the lens swell inordinately. If, after such an injury, an iridectomy is desirable, it becomes an exceedingly difficult operation to do, on account of the adhesions of the iris and the atrophy of its structure: finally, the iridectomy wound forms a track for the delivery of the lens should it become opaque. The iridectomy further prevents long-continued irritation of the ciliary body, and thus may avert cyclitis. By following this method many eyes, Kuhnt states, may be saved, which would otherwise be lost. A. LEVY.

XI.—SPRING CATARRH.

(1) Cheatham, W.—Vernal or spring catarrh. *American Practitioner and News*, February, 1906.

(2) Thaler, A.—Histology of spring catarrh. (Zur Histologie des Frühjahrskatarrhs.) *Zeitschr. f. Augenheilk.*, Juli, 1906.

(3) Jocqs, R.—The treatment of spring catarrh. (Traitement du catarrhe printanier.) *La Clinique ophtalmologique*, octobre, 1906.

(4) Lafon.—A historical study of spring catarrh (tarsal form). (Etude histologique du catarrhe printanier (forme tarsienne.) *Ann. d'oculistique*, T. CXXX, II, p. 276, octobre, 1906.

(5) Goldzieher, W.—Contributions to the pathological anatomy of spring catarrh. (Beiträge zur pathologischen Anatomie der Conjunctivitis vernalis. *Klin. Monatsbl. f. Augenheilkunde*, November-Dezember, 1906.

(1) Little, or nothing, according to **Cheatham**, is known concerning the etiology of the disease. It is considered a disease of childhood, yet all the cases that the author has seen were in adults, and all were in females. He believes that the disease is sporadic and non-contagious. The latter being true, he says, makes it of much importance to obtain a correct

diagnosis. The bulbar form offers a better prognosis than the tarsal. The disease may, and often does, last for years. It never leaves any bad symptoms or any pathological changes. He mentions an interesting case successfully treated with X-rays by Allport, of Chicago. C. A. O.

(2) **Thaler** has examined microscopically bits excised from a conjunctiva affected with this disease, and finds that the epithelium takes no share in the process. The mass of the granulations is made up of fibrous tissue strands containing large numbers of lymphocytes and many mast-cells. He does not believe, as has been stated, that yellow elastic tissue predominates. He does find that there is present much hyaline degeneration, and having regard to the class of patient in whom this disease occurs, he is of opinion that it is of the nature of a lymphadenoid disease—which frequently shows itself by enlargement of glands elsewhere. A. LEVY.

(3) **Jocqs**, after some preliminary remarks on the subject in general, relates two cases, in one of which the upper lid only, in the other the limbus only, were respectively involved. In the palpebral case he employed scarification, followed by daily digital massage with 5 per cent. yellow oxide ointment. The treatment was lengthy (*sic !*) but the cure complete. In the bulbar case, time being of importance, Jocqs did a peritomy in the right eye and a cauterization of the limbus region with the thermo-cautery in the left. The latter was successful ; the former a failure. Cauterization was then performed on the right eye with success also. ERNEST THOMSON.

(4) **Lafon** has examined sections of granulations removed from a typical case of spring catarrh and found the following conditions : (a) The epithelium was in some places stratified with 3 or 4 layers of cells, but in others it consisted of a single layer of flat cells and intermediate forms were also present. In places, crusts were formed at its expense which were of a pseudo-membranous appearance, very basophile, and contained nuclear *débris*, piknotic epithelial cells, polynuclear leucocytes, and eosinophile cells, the last in considerable numbers, while there were also some fine bacilli and a few diplococci. Prolongations were also sent into the stroma, varying from simple buds of pavement cells to long infundibuliform fissures lined by 2 or 3 layers of cubical or cylindrical cells. (b) Connective tissue. The framework of each vegetation consisted of :—(1) a central trunk arising perpendicularly from the front of the tarsus. This was formed of fibrous tissue, at first packed closely together, but afterwards spreading out into a tuft intermixing in all directions with the subconjunctival connective tissue, which showed signs of hyaline degeneration. (2) This framework was infiltrated by

cells which were rare at its dense base and in the subepithelial layer, but more numerous in the intervening parts. These consisted of lymphoid cells, often collected into foci so as to form in places a veritable adenoid tissue, plasma cells, proliferating fibroblasts, a few polynucleated leucocytes, mast cells, few but large, and eosinophile cells in considerable numbers and widely distributed. (3) The blood vessels were few and small. There were some dilated lymphatics.

These appearances correspond with those described by Schieck (1) and lead the author to agree with his conclusion that the primary lesion in spring catarrh is a growth of fibrous tissue starting from the superficial layers of the tarsus and uniting into bands which spread forwards, pushing the mucous membrane before them, and that the epithelial changes are secondary. He considers that the cellular infiltration is due to proliferation of the normal subepithelial lymphoid cells, and that the smallness of the number of polynuclear leucocytes present shows that the process is not inflammatory, and should be classed as a hyperplasia. The presence of a considerable number of eosinophile cells in all parts of the granulations which had not previously been recorded, suggested to the author a connection between the pathological changes in spring catarrh and in naso-pharyngale adenoid vegetations and hypertrophy of the inferior turbinated bones, conditions which are frequently met with in association with it, and in which the presence of eosinophile cells has been demonstrated, and an examination of specimens lead him to the conclusion that, in spite of the opinion of Terson (2) to the contrary, there is a very marked analogy between the histological changes occurring in these conditions. R. J. C.

(5) **Goldzieher** examined microscopically strips of the tarsus taken from a case of spring catarrh in the earliest stage. The changes consisted in a considerable hypertrophy of the conjunctival epithelium and the tarsal tissue. From the latter, thick fibrous bundles rose towards the epithelium. They showed a tendency to hyaline transformation, chiefly beneath the epithelium, where they formed a hyaline stratum, which probably accounts for the milky appearance of the tarsus in spring catarrh. The outgrowing fibres included also elastic elements which, however, did not preponderate to such a degree as was described by Schieck. The hypertrophy of the epithelium did not lead to a thickening, as the cells proliferated in a downward direction towards the cartilage. They formed dividing columns which filled the interstices between the bundles of connective tissue.

C. MARKUS.

(1) *Arch. für Ophth.*, 1894, LVIII.
(2) *Ann. d'oculistique*, 1902, CXXVIII.

XII.—OPHTHALMOMETRY.

Marquez.—The clinical value of ophthalmometry. (Valor clinico de la oftalmometria.) *Archives de Oftalmologia Hisp.-Amer.*, Nov.-Dec., 1906.

In this long paper, **Marquez** describes ophthalmometry, and discusses its value in clinical practice. The instrument has been, he thinks, unfairly neglected, on account of the incomplete descriptions which are to be found in almost all text-books; the student has no opportunity of acquiring the knowledge of the method, which is in effect simple, although the full understanding of the instrument is not easy. After a good account of the instrument and its mode of use, Marquez discusses the application in practice and claims for it both rapidity and accuracy. The former is hardly substantiated by his figures; the examination of each patient takes five minutes to one who is familiar to the machine; the examination by retinoscopy, to a moderately skilled observer, needs no more, probably less. In each case, the time is spent in verifying the findings with the test type and glasses. Nor is the accuracy of the estimation absolute; the direction of the astigmatism can be estimated accurately in almost every case; the aberrant cases are those of very small errors in which the accuracy is most required. As to the amount, the estimation was correct in only 25 per cent. of all cases—in some the findings showed too much astigmatism and in others too little.

In a comparison of the relative merits of the various objective methods, Marquez makes it a strong point against retinoscopy, namely, that the estimation of the axes is inaccurate. This seems a claim that cannot be sustained. If the examination be carefully performed, the direction of the axis can be estimated to within 5° in at least 90 per cent. of all eyes. Nor is it the general experience to find retinoscopy unable to give an estimation of the degree of small errors. It is precisely in these that the moderately expert observer can, with care, gain accurate data for correction. HAROLD GRIMSDALE.

XIII.—PIGMENTATION OF THE CORNEA AND CONJUNCTIVA.

(1) **Kraemer, A.—Congenital pigmentation of the cornea, (Die angeborenen Pigmentierungen der Hornhaut.)** *Centralbl. f. prak. Augenheilkunde*, Februar, 1906.

(2) Kraemer, A.—A further contribution to congenital pigmentation of the cornea. (Ein neuer Beitrag zur angeborenen Hornhautpigmentierung.) *Centralbl. f. prak. Augenheilkunde*, Mai, 1906.

(3) Steiner.—Pigmented spots on the conjunctiva. (Les taches pigmentaires de la conjonctive.) *Annales d'oculistique*, T. CXXXV, p. 466, juin, 1906.

(1) **Kraemer** reports the case of a man, German by birth, with blonde hair and light blue irides, who had in the right cornea a pigmented spot, situated up and out about 1½ mm. from the limbus. The spot is about 2½ mm. long and 1-1½ mm. wide, and is situated in the most superficial layers of the cornea, the epithelium being perfectly smooth over it. It appears to consist of a great number of fine brown dots. The eye was otherwise perfectly normal. A. LEVY.

(2) **Kraemer** reports a further case of congenital pigmentation of the cornea, which differs in some particulars from his previously reported case. This was found in an old lady, affected both eyes, and was situated deep in the substance of the cornea. It consisted of fine brownish spots, arranged in the shape of a longitudinal spindle with irregular edges, which were more deeply coloured than the central portions of the opacity. The spindle stretched across the pupillary area, but was too fine to interfere with vision. There was no sign of pupillary membrane or of any other congenital abnormality. A. LEVY.

(3) **Steiner** (Java) finds that pigmented spots on the human conjunctiva—which, when occurring in Europeans, are usually regarded as pathological—are common in the coloured races.

He describes the following varieties of the condition :—

1. Discoloration varying from light to dark brown, usually situated in the areas normally uncovered when the lids are open, or in parts of the conjunctiva exposed as a result of ectropion and due to the action of sunlight. In rare instances similar discolorations may occur in parts of the conjunctiva which are shaded from light.

2. Clearly defined black spots, more or less round, varying in size from that of the head of a pin to that of a pea. These are pigmented navi, as is shown by the fact that some of them are situated partly on the conjunctiva and partly on the skin of the lid, the nature of the cutaneous part being unmistakeable.

3. Black pigmentation of the tarsal conjunctiva and the cul-de-sac usually on the upper lid occurring in connection with trachoma, and consisting of (a) small spots or lines; (b) very large spots; or (c) a system of lines and spots forming circles or a network. These are not the result of any treatment, but

are due to the formation of pigment in the trachoma bodies, which gets rubbed away from their summits, but is left undisturbed in the furrows surrounding them. Microscopic examination shows that this pigment consists of fine round granules, which occur between or in the cells of the deep epithelial layer (the nuclei always remaining free), or in the subepithelial layer, and that the coloration was quite different in nature from that occurring in argyrosis. R. J. COULTER.

XIV.—CONVERGENCE AND ITS DEFECTS.

Reber, Wendell.—A study of convergence and its defects. Including an analysis of four hundred and forty-one cases of exophoria. *Journal American Medical Association*, September 1, 1906.

The following conclusions arising out of 12 years' earnest thought and work with exophoria are offered by **Reber** with all diffidence as to the result of that experience :—1. Exophoria, as a symptom-producing quantity, has come to the point where it must be viewed as an atavistic phenomenon, a reversion to a lower type, a stigma of degeneration, if some one wishes to insist on it. (I do not hesitate to use the latter designation, as I am myself an exophoric.) 2. All the advantages of binocular stereoscopic vision are conditioned on convergence only. 3. Convergence, as it is daily dealt with, may be said to be composed mainly of two elements, the initial or tonic convergence and the accommodative convergence. 4. The amplitude of convergence ought to be always calculated. 5. The average patient has somewhere between 10 and 11 meter angles of convergence. 6. The reserve amount of convergence ought to be about twice as great as the convergence required by the work. 7. The cover test is the most reliable test for study of the position and behaviour of the eyes when fixed on an object at 20 feet. 8. When converted into the parallel test much added delicacy is secured. 9. The Maddox rod and a small electric light are much superior, as a test for the muscle balance at the reading distance, to the verticle diplopia test. 10. Nine-tenths of all cases of exophoria will be encountered in individuals over 20 years of age. 11. The frequency of exophoria in the male and female is about equal. 12. Exophoria for infinity generally means deficiency either in the amount of convergence or in the faculty of using it. 13. Low degree exophorias are the most common and the most symptom-producing. 14. The average degree of exophoria is least in H + Ah conditions, rises through

M + Am conditions, and is highest in antimetropia. 15. Exophoria assumes three principle forms; *i.e.*, (*a*) asthenic exophoria (convergence insufficiency); (*b*) anatomic exophoria (athenic exophoria); (*c*) neurasthenic exophoria. 16. About 50 per cent. of exophorias are of the athenic or anatomic variety. 17. The test of the muscle balance at the reading distance is no measure of the total converging power of the patient and must be supplemented by tests for the convergence near point. 18. The prism convergence is only of relative value as a working indication. 19. The relation of three to one as between prism convergence and divergence will not nearly hold in exophoria. 20. The influence of hyperphoria in often reducing the power of both divergence and convergence is well known, and no case of functional divergence should be put down as a pure exophoria until hyperphoria of three-quarters of a degree or more has been excluded. 21. In hyperexophoria the use of suitable vertical prisms, with convergence training, will frequently do away with all the patient's symptoms. 22. The symptoms of exophoria do not differ materially from those of other forms of eye-strain. 23. The treatment of exophoria should comprise (in the following order): (*a*) right living; (*b*) careful refraction; (*c*) convergence training; (*d*) prisms (bases in) for infinity; (*e*) prisms (bases in) for reading glasses only; (*f*) tenotomy or advancement. C. A. O.

XV.—EMBOLISM OF THE RETINAL VESSELS.

(1) Fejer, J.—On partial embolism of the central artery of the retina. (Ueber die partielle Embolie der Arteria centralis retinæ.) *Centralbl. f. prak. Augenheilk.*, August, 1906.

(2) Zentmayer, William.—Embolism of a cilio-retinal artery; loss of one eye through gonorrhœal conjunctivitis; endocarditis; sequelæ of gonorrhœal urethritis. *Annals of Ophthalmology*, October, 1906.

(3) Gross, Oscar.—A case of occlusion of both central vessels. (Ueber einen Fall von Verschluss beider Centralgefässe.) *Arch. f. Augenheilk.*, November, 1906.

(4) Hirschberg, J.—A case of embolism of the central artery of the retina in a patient with aneurysm of the aorta. (Ein Fall von Embolie der rechten Netzhaut-Schlagader in folge von Aneurysma der Aorta.) *Centralbl. f. prak. Augenheilk.*, November, 1906.

(1) Fejer reports the case of an anæmic lady, 22 years of age,

who suddenly went blind in the right eye after a coughing attack. She was seen two hours afterwards, and presented the typical picture of embolism of the central artery of the retina—the hazy retina, fluffy disc, extremely narrow arteries, and cherry-red spot at the macula. Vision, hand-movements. The eye was tied up. Potassium iodide was administered internally, and circular massage of eye practised twice daily. There resulted gradual improvement. The upper and outer quadrant of the field of vision returned first, and the vision gradually improved until after 10 days V.=6/60, with a field which was almost normal, and the fundus assumed a more normal appearance. Fejer can only explain this case by assuming a partial embolism of the central artery, and he is inclined to ascribe some of the effect to the massage, which may have tended to dilate the vessels, and so enabled blood to flow past the embolus. A. LEVY.

(2) A youth, 16 years of age, when first seen by **Zentmayer,** had lost his left eye from gonorrhœal ophthalmia, necessitating the performance of a Mules's operation some two years later. Three years' afterwards the patient was again seen, complaining of a large black spot before his remaining eye, the vision of which was 6/6. Ophthalmoscopically, a tongue-shaped area of opacity was found in the fundus, corresponding accurately with the distribution of a cilio-retinal vessel, which arose from the upper third of the temporal margin of the optic disc. The affected vessel contained blood in some parts of its course. The visual field showed a scotoma corresponding with the area supplied by the obstructed vessel. As regards the patient's general condition, a presystolic murmur was present, and the blood showed 5,000,000 red cells, 9,000 leucocytes, and hæmoglobin, 80 to 90 per cent. Zentmayer apparently connects the embolism with the attack of gonorrhœa, endocarditis forming, as it were, the link between the two conditions. The ophthalmoscopic appearances are excellently depicted in a coloured plate. S. S.

(3) **Gross** describes the appearances of a fundus seen in a woman aged 48. On her first visit there were all the typical signs of occlusion of the central vein ; on her second visit, however, three weeks and a half later, these had been replaced by those of occlusion of the central artery. PERCIVAL J. HAY.

(4) **Hirschberg** reports the case of a man, 69 years of age, who, after suddenly stooping, found his right eye quite blind, and when seen two hours afterwards, presented the typical picture of an embolism of the central artery. The man was examined medically and found to have an aneurysm of the ascending aorta and of the arch, together with chronic nephritis. Hirschberg assumes that under these circumstances this really was an embolism and not a thrombosis. A. LEVY.

XVI.—HÆMORRHAGE DURING CATARACT OPERATION.

Chevalier.—A contribution to the study of hæmorrhage complicating the operation for ordinary senile cataract. (Contribution à l'étude de l'hémorragie compliquant l'opération de la cataracte sénile ordinaire.) *L'Ophtalmologie Provinciale*, II, p. 188, and III, p. 13, mars et avril, 1906.

Chevalier records a case of expulsive intra-ocular hæmorrhage following extraction of a cataract from an eye which was otherwise apparently normal. He gives *resumés* of the histories of nine other previously reported cases, and of the explanations which have been suggested to account for the occurrence of the accident. From a study of these he draws the following conclusions :—1. The accident is one of the rarest complications of cataract extraction, and there are usually no signs by which it can be anticipated. 2. Its pathogeny remains obscure, but it may depend on early glaucoma or on vascular changes. The persistence of the hæmorrhage is explained by the adhesion of the ciliary vessels to the sclerotic which keeps them patent. 3. Formerly the almost exclusive treatment was enucleation, but before removing the eye it is worth while to try pressure or corneo-scleral suture. When there is any increase of tension or evidence of arterio-sclerosis a prolonged preparatory course of iodides or trinitrite is indicated, and it may be advisable to perform a preliminary iridectomy or to extract the lens under chloroform. R. J. C.

XVII.—LENTICULAR DEGENERATION.

Toufesco.—A preliminary communication on the nature of the degenerative changes in the fibres of the lens. (Note préliminaire sur la nature des altérations dégénératives des fibres cristalliniennes.) *Ann. d'oculistique*, T. CXXXV, p. 265, avril, 1906.

Mdlle. Toufesco, on the suggestion of Morax, is investigating the part played by fatty degeneration in the causation of cataract. The present paper gives the first results obtained from the examination, with the aid of elective stains

and osmic acid, of forty lenses removed for senile cataract, one removed for juvenile traumatic cataract, and one case of cataract in a rabbit due to naphthalin poisoning. Details of the methods employed, and descriptions and illustrations of the appearances seen, are given, from which the following conclusions are drawn.—(1) In senile cataract the fibres of the lens undergo fatty degeneration. The fat drops are at first situated in the interior of the fibres, but later the fibres are broken up into fibrils, which disappear in their turn, leaving a homogenous mass permeated by vacuoles. (2) The vacuoles represent the spaces occupied by the fat globules and appear only after these globules are dissolved by the re-agents employed. (3) The masses of granulations in the intervals between the fibres appear to be masses of fat globules. (4) The fatty degeneration of the lens fibres begins at the equator. (5) The nature of the fats requires further study, but there appear to be several varieties and they are very sensitive to the action of solvents. R. J. COULTER.

REVIEWS.

Ueber Augenerkrankungen sexuellen Ursprunges bei Frauen. E. BERGER und R. LOEWY. Wiesbaden: J. F. Bergmann, 1906.

This is a German translation of Berger and Loewy's *Les Troubles oculaires d'origine génitale chez la Femme*, published in 1905, and noticed in the columns of THE OPHTHALMOSCOPE of August 1, 1905.

La Teoria degli Specchi e delle Lenti, Applicata alla diagnosi dei Vizii di Refrazione. (The Theory of Mirrors and of Lenses as applied to the Diagnosis of Errors of Refraction.) By E. TROMBETTA, of Florence. Second edition. Florence: Nicolai. 1906.

Trombetta's manual has reached a second edition. The essential principles of optics in their relationship with practical ophthalmology are clearly described. Certain demonstrations of theorems, not absolutely necessary for the understanding of the subject, have been simplified or suppressed in the second edition. The book is distinguished now by its clearness and concision. A. ANTONELLI.

Eye Injuries and their Treatment, by A. MAITLAND RAMSAY, M.D. Glasgow: James Maclehose & Sons, 1907. Price 18s. net.

This is a handsome volume of 200 pp. of well-printed reading matter, and twenty-four well-executed plates, most of which are coloured.

The first 118 pp. only are directly concerned with the description of eye injuries and their treatment; 30 pp. are devoted to a discussion on ocular therapeutics and general directions regarding operations on the eye; whilst the formulary of the Glasgow Ophthalmic Institution occupies over 50 pp. of somewhat smaller print.

The author states that "the lectures on which the present volume is based were, in the original form, delivered in connection with post-graduate courses and, at the time, appeared in whole or in part in various medical journals. They have been re-written and are now published all together in the hope that they may prove helpful to general practitioners." It is evident, therefore, that the book is not intended to be an exhaustive treatise on the subject. The descriptions of the more common injuries of the eye, and their treatment, are given in a readable form, and the volume will be found a useful addition to the practitioner's library. It seems to us, however, that here and there the author has sacrificed accuracy to lucidity and simplicity of description.

Some of the subjects mentioned seem deserving of a fuller consideration. Under superficial injuries, although mention is made of injuries of the cornea by curling tongs, baby's nails, &c., no reference is made to the somewhat common and very troublesome condition of recurrent keratalgia and detachment of the corneal epithelium. Under wounds of the orbit, again, no reference is made to the peculiar effects on the optic nerves and eyes, of gunshot wounds of the orbit and neighbouring regions.

In view of the numerous cases of this class recorded, the author is hardly justified in saying that "a man . . . attempted (*sic!*) to shoot himself with a revolver with the result that the bullet had passed through the skull at the level of the orbits and, severing both optic nerves, had caused complete blindness, but had done no other harm."

The author's method of localising foreign bodies in the eye by means of X-rays, is perhaps a little simpler than, but hardly as accurate as, that devised by Mackenzie Davidson. The plates illustrate most of the conditions described in the text, but some of them are rather highly coloured, and one or two do not quite tally with descriptions, *e.g.*, Plates xiii and xiv, figs. 1; whilst

the description of Plate xiii, fig. 3, is hardly intelligible. There are a few orthographical errors, and we notice that the expression "corneoiritic angle," is used several times.

The chapters on ocular therapeutics and directions for operations are lucid and succinct.

The pharmacopœia included is not unlike that of any other ophthalmic hospital, and hardly deserves the space given to it in a book of this type, even although it may "save a practitioner from being compelled to fall back on proprietary medicines."

The publisher's work has been done in an exemplary manner.

J. JAMESON EVANS.

Leçons de Thérapeutique Oculaire d'après les Découvertes les plus récentes. Par le Dr. A. DARIER, Ancien Président de la Société d'Ophtalmologie de Paris, etc. Third edition. Paris: 9, Rue Buffault. 1907. Price 12 francs.

The third French edition of Darier's widely-known *Leçons de Thérapeutique Oculaire* has recently been published. So numerous have been the advances in ocular therapeutics since the second edition appeared five years ago that this has become practically a new book. It is written in simple, nay, pellucid, language, and the keynote of the book, that of therapeutic enthusiasm (which bestows upon it a special value and *cachet*), is as well-sustained as ever. Darier simply refuses to be discouraged, or to allow his readers (and they are certain to be numerous) to be so either. The work must, however, be read before one can fully appreciate the profound belief that the author has in the medicaments and methods he employs in the treatment of diseases of the eye. The optimism of this clever writer, indeed, is quite refreshing after the therapeutic pessimism of many authors, whose views of treatment appear to have been acquired in the pathological laboratory, rather than in the out-patient room or hospital ward. Darier's book is a testimonial to the success that often attends the adoption of clinical as opposed to laboratory methods. As such it must be welcomed by everybody, whether he agrees or not with all, or, indeed, with any, of the author's conclusions.

Among the newer remedies described in the present edition, a prominent place is accorded to the treatment by anti-diphtheritic or anti-pneumococcus serum of hypopyon-keratitis and of general ocular infections; to the employment of tuberculin; to radium in the management of trachoma and of epithelioma of the eyelids; and, last but not least, to the use of the organic salts of silver, particularly argyrol and collargol, in various superficial inflammations of the eyes, such as conjunctivitis, gonococcal and otherwise. Subconjunctival injections, as might be expected from Darier, the father of the method, come in for a large share of

attention, and among the newer remedies now applied by this plan the author gives a prominent place to dionine, sodium iodate, sea water, and tuberculin. Of special interest is Darier's observation that the subconjunctival injection of sodium iodate is capable of lowering the tension, calming the pain, and of clearing the cornea in certain cases of glaucoma. Not the least interesting lecture is that which deals with tuberculous affections of the eye and their treatment. After some remarks on the frequency of ocular tuberculosis and the difficulties of diagnosis, Darier points out that until recent times the only treatment for the more serious cases was to remove the eye. The author has observed that the violent local reaction sometimes following the injection of tuberculin may be reduced by injecting beneath the conjunctiva one c.c. of guaiacol, 1 per cent. He cites a couple of cases to show that tuberculosis may now and then be the cause of interstitial keratitis. The history of the various kinds of tuberculin is outlined, and, in doing so, Darier discusses the opsonic theory, which he thinks explains very well the action of tuberculin. In considering the dose of tuberculin applied for the relief of tuberculous affections of the eye, Darier believes that one should commence with 1/500 of a milligramme or even less, and that injections should be made every other day. The thermometer should be used every six hours, and on the least rise, the injections should be discontinued until such time as the temperature has fallen to normal. Subconjunctival injections of the remedy, in Darier's opinion, should not be practised until the ground has been well prepared by a long course of hypodermic injections, and even then small doses should be employed. A good abstract is given of v. Hippel's important communication to the Heidelberg Congress in 1905, dealing with fourteen cases of intra-ocular tuberculosis treated with tuberculin.

The book contains some text-figures, many of which are to illustrate the various kinds of teeth associated with hereditary syphilis. It may not be generally known that the first permanent molar teeth, the so-called "Darier's teeth," sometimes afford as conclusive evidence of the specific diathesis as do the world-famous "Hutchinson's teeth." The characteristics of both varieties are well brought out by the illustrations.

In lectures of this kind, which were originally delivered in the Paris Faculty of Medicine, it is perhaps unavoidable that the writing is occasionally somewhat diffuse, and that overlapping occurs here and there. At the same time, the lecture form preserves the charm of the spoken word, and allows one to portray the personality of the speaker. As good points in the third edition of the *Leçons*, we note a systematic arrangement of

the references to ophthalmic literature and, especially, the provision of a proper alphabetical index. The book is issued in artistically designed paper covers. It is, we understand, already in process of translation into English and German.

H. DE V.

Sur l'Histologie et l'Étiologie du Lenticône postérieur. Par ANDRÉ PATRY. Avec 3 planches. Genève: W. Kündig et fils, 1906.

Dr. André Patry has written an interesting little monograph on the histology and ætiology of posterior lenticonus, based upon the anatomical examination of the eyes of a rabbit affected with complete cataract. Under the name "lenticonus" the author includes all cases where the posterior surface of the crystalline lens forms a projection into the vitreous body, with or without rupture of the posterior capsular membrane. The difference between the two eyes examined by Patry was instructive. In the first, the post-equatorial part of the lens possessed a triangular outline, projecting considerably into the vitreous body. Lying behind the posterior pole were crystalline masses free in the vitreous body, connecting, as it were, the summit of the cone, on the one hand, with the retina, on the other. No traces could, however, be found of the hyaloid artery. In the second eye, the hinder surface of the lens formed a rounded and voluminous projection; there were no crystalline masses in the vitreous body; the nucleus of the lens was of large size, and reached as far as the posterior capsule. There was a central cataract. The posterior capsule, although thinned, was intact. Patry's two cases, outlined above, along with those already published by other writers, make in all sixteen cases of posterior lenticonus—*i.e.*, 2 in man, 10 in the rabbit, and 4 in the pig. The condition is seldom (29 per cent.) bilateral. A study of the cases shows, among other things, that the anterior capsule is usually normal, while the posterior capsule is always thinned and often ruptured. The fibres of the lens practically always show changes. As to the pathogeny of the lesion, there are two views:—(1) that the rupture is due to an augmentation in the volume of the lens; and (2) that both rupture and deformity are caused by traction exercised by the hyaloid artery. Some writers have also assumed (3) an abnormal or incomplete development of the capsule. Although the true cause of lenticonus has so far escaped us, Patry gives some reasons for thinking that it may be closely connected with illness of the mother during the period of gestation. SYDNEY STEPHENSON.

Injuries of the Eyes of the Employed and the Workmen's Compensation Act: Problems in Prognosis. By W. M. BEAUMONT, Surgeon to the Bath Eye Infirmary. London: H. K. Lewis, 1907; pp. 160. Price 5s.

Mr. Beaumont's little work is a very useful, because a very suggestive one. It does not pretend to supply any of the information in regard to the pathology, the symptomatology, or the treatment of the numerous affections of the eye that may be acquired by reading or by sedulous attention in the wards of a hospital, but it deals essentially with the problems that in the near future will present themselves to the ophthalmic surgeon as consequences of the working of the Workmen's Compensation Acts, and when we consider the varied and important functions of the eyes, the reliance that must in many instances be placed on the statements of the patient, the difficulty of making many obscure points intelligible to judge and jury, and, finally, the impossibility of parrying the searching questions of a well-primed cross-examining counsel, the ophthalmic surgeon of the future has no light task before him, and may well step into the witness box with a heavy heart. To make a thorough and complete examination of any disputed case in view of the state of the eyes, so that a clear and ready reply can be given to unexpected questions, requires much time and patient investigation: the refraction, the field of vision for white and coloured light, the movements of the iris, the state of the media and of the retina and choroid, the healthy balance of the muscles of the eye, or their imbalance, with its nature and degree, the presence or absence of antecedent impairment of vision, and, finally, a factor which is not to be disregarded even in "honourable men," namely, the tendency to exaggerate the symptoms really felt—each and all abound with pitfalls for the unwary witness.

Mr. Beaumont calls attention to a very important clause in the last Workmen's Compensation Act of 1906, in which it appears that workmen acquiring anthrax, lead, mercury, phosphorus, or arsenic poisoning, or ankylostomiasis, are entitled to compensation just as if they are suffering from personal injury by accident arising out of and in the course of their employment. Mr. Beaumont pertinently remarks that it is to be expected that as time goes on, additional diseases will be scheduled under the Act, so that in the end the development of any disease during the time he is in the employment of any employer will be entitled to compensation. "For if the principle of giving recompense in the case of any of the above-mentioned diseases is granted, it seems impossible for long to exclude pneumonia, pleurisy, myopia, phthisis, bronchitis, laryngitis, emphysema, rheumatism, neuritis,

anæmia, morbus cordis," and a host of others. The ophthalmic expert must bear in mind that if he merely see the patient he is liable to be called upon as a witness, and that the conditions found at the first examination are of great importance in the subsequent history of the case, and such examination should be as full, as accurate, and as complete as possible. In his examination-in-chief he should confine himself to facts, and in cross-examination, he should beware of agreeing too readily with the insidious suggestions of opposing counsel. The occupation of the patient is of great importance. We have known a case where a slight blow, the effects of which, under ordinary circumstances, would have passed wholly unnoticed, cost an employer several hundreds of pounds, because the patient, who fitted the airsprings and other delicate parts of valuable watches, declared he was unable to continue his work. Mr. Beaumont does not touch on the subject of the insurance value of one or both eyes, except to remark that it varies greatly, but this is a large subject, and the present volume is only the introductory chapter of such a work. Will Mr. Beaumont accomplish such a work? He has the capability of writing it, and it would prove most serviceable.

HENRY POWER.

Ophtalmologie Microbiologique. Par le DR. A. GABRIÉLIDÈS. Constantinople: A. Christidis, Gaiata, Rue Voïvoda, No. 96. 1906. Price, 5 francs.

Dr. A. Gabriélidès, of Constantinople, has written a book of 250 pages (illustrated by a few black and white pictures) on microbiology in its relationship to ophthalmology. It is issued without preface or table of contents, to say nothing of an index. The last-named omission, especially, detracts from the value of the book as a work of reference. It is to be hoped that in a second edition an index may be supplied.

The author discusses, with a wealth of references, those affections of the conjunctiva due to the Morax diplobacillus, Weeks' bacillus, Pfeiffer's bacillus, bacillus subtilis, Löffler's bacillus, Neisser's gonococcus, Weichselbaum's meningococcus, pneumococcus, streptococcus, staphylococcus, pneumobacillus, tubercle bacillus, leprosy bacillus, bacillus mallei, Ducrey's bacillus of soft chancre, and actinomyces. Gabriélides gives in each instance a description of the clinical symptoms, followed by an account of the bacteriological diagnosis of the particular micro-organism concerned, together with a few words on the treatment of the condition. This portion occupies 39 pages of the book. In the next section (23 pages), a practical account is given of how micro-organisms should be searched for—

the methods of staining, of culture, and of inoculation; in a word, the details to be found in an ordinary text book of bacteriology. Then follows a description of each microbe liable to be found in the conjunctiva, taking up, turn by turn, its history, morphology, and staining reactions, its biology and cultivation, its habitat, its pathology, and the results of its inoculation. This portion of the book extends to 142 pages. The author next describes and discusses certain diseases, as syphilis and trachoma, which although communicable from individual to individual, are not absolutely proved to be due to a micro-organism. A section is added on Parinaud's conjunctivitis and spring catarrh, of which the organisms are as yet altogether unknown, although they doubtless exist. Sections follow on phlyctenular conjunctivitis, ophthalmia neonatorum (amicrobic), exanthematous conjunctivitis, pemphigus of the conjunctiva, and the conjunctival manifestations of polymorphous erythema. The book ends with a chapter devoted to toxic conjunctivitis, inflammations due to abrus precatorius, and so forth. Dr. Gabriélides has produced a work crammed with information, arranged in such a way as to be likely to be of service to those who are interested in the connection between ophthalmology, on the one hand, and bacteriology, on the other. SYDNEY STEPHENSON.

The Pathology of the Eye, Vol. III, Part I By J. HERBERT PARSONS, M.B., D.Sc., F.R.C.S. London: Hodder and Stoughton, 1906. Price 15s. net.

Parson's *Pathology of the Eye* is still appearing, and now Volume III has been issued, which brings the book up to 1,128 pages. Rather more than one-third of the space of the present volume is taken up with the discussion of congenital abnormalities. The succeeding chapters deal with myopia, hypermetropia and astigmatism, the nutrition of the eye, the theory of immunity, the normal intra-ocular pressure, and glaucoma.

The chapter on congenital abnormalities is a very interesting one, as we find not only a description of all the more usual and better known varieties of congenital defect, but the rarer ones also are alluded to, while the cause of them is discussed, and many can, of course, be satisfactorily explained on embryological grounds. The reader will here find reference to all the important cases which have been described, and many of them are illustrated with reproductions from the original papers, notably cases shown before the Ophthalmological Society, or those recorded in the *Royal London Ophthalmic Hospital Reports*. In order to follow these, a thorough knowledge of embryology is necessary,

but the explanations given are lucid and indicate the immense amount of work in collating the original papers which are referred to in every section. Two conditions remarkably well described are—first, those curious and rare cases of anencephaly, and, second, the cause and origin of the choroido-vaginal veins. This chapter is really so full of interesting descriptions that it is most difficult to pick out for comment any one point in particular. Orbital cysts and microphthalmia are well described.

In treating of axial myopia, it is interesting to note that Plempius, in 1632, first examined a myopic eye anatomically, and attributed the condition to lengthening of the part between the lens and retina. It was Donders who found out by ophthalmometric measurements that "myopia is almost entirely due to lengthening of the optic axes, due to staphyloma posticum." After some other historical notes, the whole subject is thoroughly gone into, and a great deal of space is devoted to the discussion of the myopic crescent and of posterior staphyloma, and these are illustrated by drawings and photographs. A very pretty photograph is given of a case of hole in the macula, which clearly shows the condition present. Hypermetropia and astigmatism are next discussed, but far less space is naturally devoted to these subjects.

Chapter 17 deals with the circulation of the eye, and this is a subject on which the author has done a good deal of work, while some diagrams, showing the arrangement of blood-vessels of the dog and rabbit, are taken from a recent paper by Henderson, in the *Royal London Ophthalmic Hospital Reports*. Following this are chapters on the nutrition of the eye, and the theory of immunity.

The author has done much original work on the normal intra-ocular pressure, and so also have Starling and Henderson. The results obtained by these observers are set out in a clear and lucid manner, and some interesting tracings are given which the author has taken from eyes, while the animal is subject to various kinds of stimulation and alteration of vascular pressure.

Glaucoma naturally follows. Here is a large field open for the experimental investigator. Parsons is not slow to make use of his opportunities. We again have some historical notes, and then the whole question is discussed in full. Numerous drawings and photographs, taken from the works of Priestley Smith and E. Treacher Collins, are given, and a summary of recent work on this disease will here be found. Secondary glaucoma is treated as well as primary, and, as before, it is profusely illustrated.

For years past, workers in ocular pathology have experienced

the greatest difficulty in finding an adequate treatise on the subject. To these the present work has come as the greatest boon. It reflects the highest credit on the perseverance of the author, for the work he must have done in order to collect the information these volumes contain is enormous, and it is to be hoped that both the author and the publisher will be rewarded by this book attaining a world-wide circulation. It is safe to say that no worker in pathology could afford to be without this book, since it will save him hours of tiresome research, for in addition to the intrinsic value of the book, the references to literature on all subjects treated is so complete, that with a minimum of trouble, all the work of former observers can be got up almost literally at a glance.

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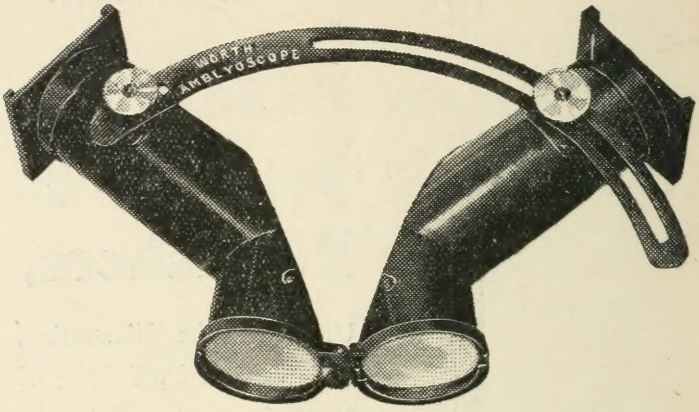

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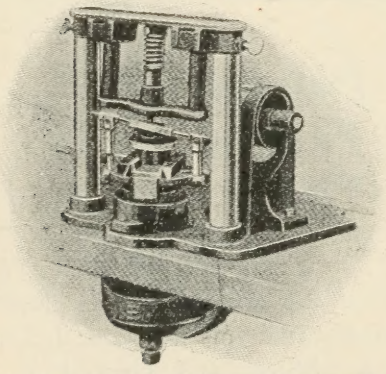

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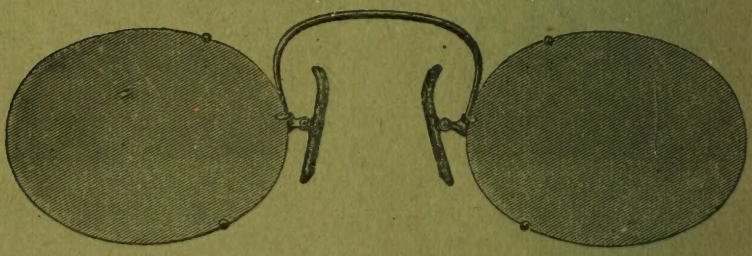

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